Marine Protected Areas in Kenya:

Perceptions of local communities of costs and benefits of MPAs and their governance

Kuruwitu, Kilifi County Kenya; Credit- Stephanie Achieng

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Abstract

This study aimed to examine the perceptions of two local communities living adjacent to Mombasa Marine National Park and Reserve (MMNP&R) and Kuruwitu community closure (*tengefu*) in Kenya regarding the benefits and impacts of the MPA on their livelihoods. A secondary aim was to compare the perceptions of these two communities in relation to the MPA management models employed at the two study sites. The research employed a case study approach and undertook focus group meetings and key informant interviews at each case study site and with relevant organisations. Key findings from the research revealed that both sites experienced diversification of livelihoods, however the diversification was for different reasons. The Bamburi community members stated that the park generated benefits such as new forms of employment linked to tourism, beach security, increased variety of corals and fish species as well as improved infrastructure. The Kuruwitu community perceived the closure to have resulted in various benefits but in particular social benefits, such as women empowerment, ownership of resources, co-existence among resource users and community exchange visits were highlighted.

However, both cases also identified various negative impacts including tensions due to an increase in migrant fishers, illegal access and poaching and the use of unsustainable gear. Furthermore, the direct resource users (fishers) in both case study sites felt that their fishing grounds had been drastically reduced due to the establishment of the park and *tengefu* which negatively affected their fish catches and livelihoods, leading to decreased support for the conservation initiatives. Therefore, the fishers in both study sites were more negative about the protected areas compared to the other resource users. Kuruwitu, in particular, identified perceived fear of the loss of their marine area to privatisation, inequitable sharing of benefits by their leadership group and limited involvement of women in decision- making as primary negative concerns. On the other hand, concerns about minimal involvement in management decisions during and after park inception were expressed by participants at the Bamburi study site. In addition, the lack of transparency in the management and use of revenue derived from the state- run MMNP&R further aggravated tensions between the state and the adjacent communities as well as severe penalties set for transgressions on locals by marine park authorities at MMNP&R.

With the introduction of co-management through the Beach Management Units (BMUs) in Kenya in the year 2007, it was expected that stakeholder participation would be increased, however, the Bamburi community lamented over lack of proper representation within the BMUs which they claimed gave outsiders more power. While both communities, especially Kuruwitu identified a number of non-governmental organisations (NGOs) that aided in fulfilling the community's socio- economic and ecological objectives, they were much more central to achieving socio-ecological objectives at Kuruwitu than at Bamburi. These NGOs and other stakeholders, however, became much more engaged at MMNP&R after the inception of the BMUs. Based on the findings, it was evident that the community- based co-management conservation approach at Kuruwitu generated more social benefits to the community than the state-centred co- managed conservation approach at MMNP&R. Loss of access to traditional fishing grounds, perceived loss of benefits and increased social costs triggered illegal access into the state park, therefore, fuelling conflicts and exacerbating tensions between the community and the state as well as tensions between various management institutions regarding overlapping mandates. Implementing genuine co-management approaches are key to fostering inclusivity, accountability, legitimacy and support for marine conservation initiatives.

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Table of Contents

List of Figures and Tables

List of Figures

List of Tables

List of Acronyms and Abbreviations

AFEW	African Fund for Endangered Wildlife
CCA	Community Conservation Association
CORDIO	Coastal Oceans Research and Development- Indian Ocean
EAWLS	East Africa Wildlife Society
IUCN	International Union for the Conservation of Nature
KCCA	Kuruwitu Community Conservation Association
KCWA	Kuruwitu Community Welfare Association
KCMA	Kuruwitu Community Managed Association
KMFRI	Kenya Marine and Fisheries Research Institute
KMA	Kenya Maritime Authority
KWS	Kenya Wildlife Services
MBOA	Mombasa Boat Operators Association
MMNP&R	Mombasa Marine National Park and Reserve
MPA/s	Marine Protected Area/s
NEMA	National Environmental Management Authority - Kenya
NGO	Non- Governmental Organisation
SDF	State Department of Fisheries (Kenya)
UCT	University of Cape Town
UNEP- WCMC	United Nations Environment - World Conservation Monitoring Centre
WCS	World Conservation Society

Chapter 1- Introduction

1.1 Introduction and Rationale for the study

Increasingly, Marine Protected Areas (MPAs) have been employed globally as key biodiversity conservation and fisheries management tools (Agardy et al., 2003; Rodwell, 2003; Nursey-Bray, 2011; Bennett & Dearden, 2014b). In addition, they may also be established on other grounds such as for recreational activities, tourism, scientific research and education (Sowman et al., 2011; Cinner et al., 2012a; McClanahan et al., 2016). Current global MPA coverage represents 7.44% of the ocean surfaces (UNEP- WCMC & IUCN, 2018). MPAs come under different names such as parks, no-take zones, reserves or even sanctuaries (McClanahan et al., 2003; Christie & White, 2007; Ferse et al., 2010). These designations depend on the goals and objectives that they are intended to fulfil as well as the scale and context of application (Agardy et al., 2003; Christie et al., 2003).

The establishment and management of MPAs may generate negative and positive cultural, socio-economic, socio- political and ecological impacts on local communities (Mascia et al., 2010; Bennett & Dearden, 2014a). Examples of social impacts of MPAs on local communities range from loss of traditional access rights to resources, displacement and forced removal of local communities from traditionally managed marine areas to impacts on livelihoods, food security, poverty, identity, culture, sense of ownership and inequitable distribution of benefits (West et al., 2006; Brockington & Wilkie, 2015; Cinner et al., 2015; Sowman & Sunde, 2018). MPAs may be managed under different governance types. These include state- based, community- based (i.e. indigenous or local communities make the rules and decisions), or cooperative management (i.e. co-management), traditional management and private management (Christie et al., 2003; McClanahan et. al., 2006; Christie & White, 2007; Jentoft & Chuenpagdee, 2009; Borrini- Feyerabend et al., 2011). Approaches to marine conservation have been largely top-down and state-centred and have been employed in most developing countries post-colonialism. More recently, however, community- based management and collaborative approaches have been experimented with and adopted in some countries in the global south.

Studies on MPAs have mostly focused on understanding ecological and conservation issues with little attention given to social dimensions of MPAs. More recently, however, there has been a recognition of the need to better understand the social and governance issues of MPAs. In addition, research suggests that conventional science- based and top- down approaches have been met with opposition from local communities due to numerous negative social impacts (experienced or perceived) associated with those MPAs which are often distributed unevenly among affected communities (Mascia et al., 2010; McNeill et al., 2018; Sowman & Sunde, 2018). Furthermore, it is now acknowledged that in order for MPAs to fulfil their ecological objectives, the social issues must similarly be addressed (Christie et al., 2003; McClanahan et al., 2006).

In an effort to better understand the social and governance issues associated with MPAs, this study focusses on local communities' perceptions of benefits and costs associated with MPAs which are managed under different governance approaches. Sustainable and equitable MPA management depends to a large extent on the perceptions of local resource users and community members to the benefits and impacts of the MPA and its management (McClanahan et al., 2005; McClanahan et al., 2009; Bennett and Dearden, 2014b).

Perception studies of local communities are thus valuable in terms of enhancing understanding of local communities' views on social, ecological and governance impacts of MPAs, which can inform adaptive management. These studies also provide insights into the appropriateness and legitimacy of conservation governance including the appropriateness and support of rules and decision-making processes (Bennett & Dearden, 2014b; Bennett, 2016; Ordoñez-Gauger et al., 2018). Perceptions studies also provide a clearer understanding of local communities' histories (Brechin et al., 2003; West et al., 2006). Thus, perceptions are people's reality, and they influence how local communities view the world and behave.

Consequently, two case study sites, one at Mombasa Marine National Park and Reserve (MMNP&R) and a community-based initiative known as the Kuruwitu Community Conservation Area (KCCA), were selected to explore the perceptions of local communities to the MPAs. Understanding the perceptions of local communities of impacts of MPAs on their lives and livelihoods are thus important, so that management approaches and management practices can be adapted to address local needs and situations (Agardy et al., 2003; Bennett, 2016).

The primary focus of this study is thus to explore the perceptions of communities with regard to the benefits and costs associated with MPAs and ascertain whether the governance approach has a bearing on their perceptions.

1.2 Research Aims and Objectives

Aim

The overall aims of this research are:

- To examine the perceptions of two local communities living adjacent to MPAs regarding the benefits and impacts of the MPA on their livelihoods; and
- To compare the perceptions of these two communities in relation to the MPA management approaches employed at the two study sites.

Objectives

- To examine the perceptions of the two communities with regard to the history, benefits and negative impacts of the MPAs on their livelihoods;
- To explore the communities' perceptions of the management approaches employed at the two MPAs;
- To explore the nature and extent of involvement of resource users and key stakeholders in the management and governance of the MPA at the two case study sites;
- To ascertain if there is a link between perceptions of impacts and governance/ management approach.

1.3 Case Study Sites

The section below provides an overview of the two communities selected as case study sites. The Bamburi community lives adjacent to Mombasa Marine National Park and Reserve (MMNP&R) which is managed by the state using conventional top-down approaches. The second case study is the Kuruwitu community living adjacent to the Kuruwitu closure (*tengefu*) which is a community- based conservation initiative. These two case study sites were selected due to their accessibility and the fact that a relationship had already been established with the communities through a local conservation non- governmental organisation (NGO) where the researcher was working during the time of the fieldwork. The MMNP&R has been in operation for over 30 years while the Kuruwitu community closure has been operating for 10 years.

The overview includes the historical background of the sites, the reasons for the establishment of the MPAs, geographical extent, demographics and socio-economic characteristics and current governance approaches. Table 1 below provides an overview of key information about the case studies.

Table 1: Summary of case study sites Bamburi and Kuruwitu

MPA	*Year Established*	*Governance approach*	*Area*	*Population*
MMNP&R (Bamburi)	1986	State- driven	200 km^2 marine park & 10 km^2 marine reserve	24,918 people
Kuruwitu	2006	Community- based	0.29km^2	8,739 people

1.3.1 Bamburi Community at Mombasa

MMNP&R was established in 1986 (Muthiga, 2006; Ransom & Mangi, 2010). It is located within the present- day Mombasa County which is along the coast of Kenya (Latitudes 40° 43’ and 40° 15’, and longitudes 30° 55’ and 4° 12’ N.E) (Muthiga, 2006) (refer to figure 1 below).

MMNP&R is well served with a network of fringing reefs and coral reefs, and hence was established mainly for biodiversity conservation and fisheries protection. The park area has extensive coral reefs which support a variety of fish (McClanahan et al., 2005; Muthiga, 2009; Ransom & Mangi, 2010). The MMNP&R has two main communities that depend on the park for their livelihood. These are the Bamburi and Utange communities which both live adjacent to the park and the reserve. These two communities have similar socio-economic and demographic characteristics (Cinner & McClanahan, 2006). The study focussed on the Bamburi community living adjacent to the MMNP&R.

The Bamburi community reside adjacent to MMNP&R, and therefore experience a lot of tourist activities (Cinner & McClanahan, 2006) due to the warm tropical climate of the coastal town (Ransom & Mangi, 2010). Bamburi is a settlement that is densely populated and has access to a tarmac road. Along the road there are small- scale businesses such as vegetable vendors, petrol stations, shops, kiosks, salons and beauty shops, motor- vehicle repairs and mini- cyber cafes (Cinner & McClanahan, 2006). The main language spoken is Kiswahili (Government of Kenya, 2010).

A socio- economic study by Cinner & McClanahan (2006) on fishing communities along the north coast of Kenya showed that approximately 50% of the population in communities such as Bamburi, were engaged in fishing. However, while fishing was still a primary income earner in many of these

communities, it was supplemented by other income- generating activities such as agriculture, trade, small- scale businesses and service industries such as hotels (Muthiga, 2006).

Upon establishment of the MMNP&R state park in 1986, the management of the area was taken over by the Kenyan government through the Kenya Wildlife Services (KWS) as the implementing institution (McClanahan et.al., 2005; Ransom & Mangi, 2010).

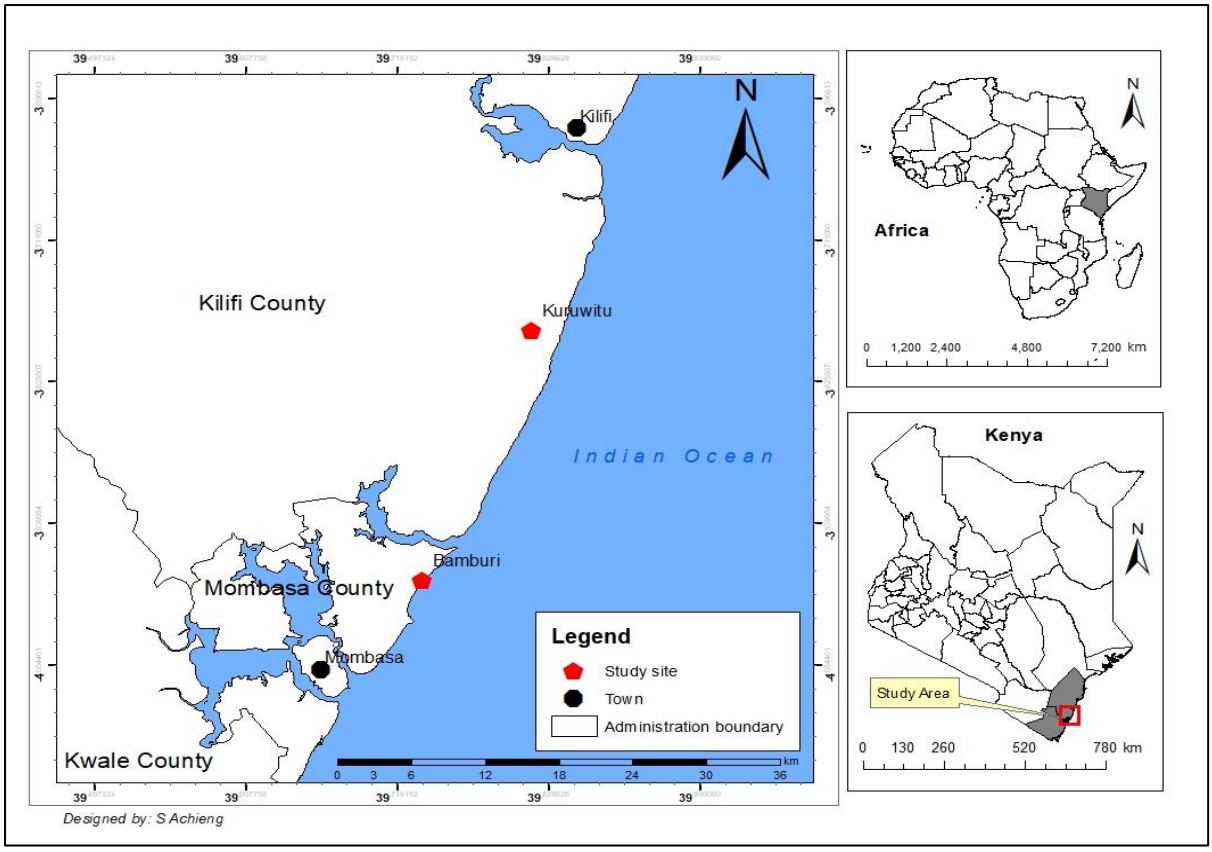

Figure 1: Study site locations showing Bamburi and Kuruwitu communities along the coast in Kenya

In 1992, efforts to improve community involvement in the park were introduced due to the communities' demand for greater involvement in decision making. The demand came about due to previous conflicts between the KWS and local fishermen over the isolation and reduction of fishing grounds. However, the MPA management mandate still remained solely under the Kenyan central government's control (McClanahan et al., 2005).

Despite efforts to increase participation, the local communities have continued to protest about the centralised management approach as they feel isolated and excluded from decision making. Following protests by the locals, the national government has attempted to include the local community in management decision-making through the Beach Management Units (BMUs). The BMUs have enabled local communities to create their own by- laws for their respective landing sites with support from the state and stakeholders such as NGOs with approval from the Director of Fisheries Department (Cinner et al., 2009). Subsequently, this has led to increased participation among the local communities in management of their marine areas.

1.3.2 Kuruwitu Community at Kuruwitu

The Kuruwitu area lies along the North Coast of Kenya and is approximately 25km north of Mombasa town and 15km South of Kilifi town within the Junju sub- location in Kilifi County (Government of Kenya, 2010) as shown on the map (figure 1). Kuruwitu is a rural area which is sparsely populated with dispersed settlements comprised of several sub- villages within an area of approximately 23.3 km^2 (Government of Kenya, 2010). Most of the households do not have running tap water or electricity. The area experiences low rainfall, leading to hot and humid weather (Harrison, 2005).

The residents of the area are primarily of African origin. However, there are a small number of people of Asian and European descent that settled in the area during the trade era and have since made investments in the area through hotels and businesses. These people are referred to as the elite residents of the area (Harrison, 2005; Mahajan & Daw, 2016). The main communities in the area are the MijiKenda ethnic groups, especially the Giriama and the Chonyi sub-tribes (Harrison, 2005). The local people depend mainly on marine resources as their key source of livelihood, especially fishing, which is supported by other activities such as small- scale businesses and subsistence agriculture (Harrison, 2005). Most of the heads of the households are either fishers or women involved in post-harvest work.

With immense support from local NGOs; namely, the East African Wildlife Society (EAWLS) and the African Fund for Endangered Wildlife (AFEW), the Kuruwitu Community Conservation Area (KCCA) was started in 2006. The Kuruwitu community closure (*tengefu*) comprises six fish landing sites (Bureni, Kinuni, Kijangwani, Kuruwitu, Mwanamia and Vipingo) which are all located along the shore in Kilifi County along the north coast of Kenya (Maina et al., 2011).

KCCA was the first coral reef-based community conservation area (CCA) to be established in Kenya. It was inspired by a community exchange visit facilitated by EAWLS and AFEW from Kuruwitu to Tanga (Northern Tanzania) in 2004 (Wells et al., 2007; Mahajan & Daw, 2016; Kawaka et al., 2017). The exchange visit encouraged the creation of other CCAs in Kenya. The exchange visit was also meant to provide a first-hand learning experience for the Kuruwitu community through observation and sharing experiences of the Tanga communities. EAWLS supported the Kuruwitu community because the local people had expressed interest in starting their own community closure in order to encourage sustainable utilisation and management of marine resources (Maina et al., 2011; Kawaka et al., 2017). In addition, the local resource users favoured a community-based approach as they were sceptical about state-centred management which they had perceived to provide minimal benefits to local communities in Kenya (Kawaka et al., 2017).

1.4 Study Limitations

This study was not without its limitations. The first limitation was finding a suitable time to meet research participants due to the unpredictable nature of the sea. As a significant majority of respondents were fishermen who went out to sea, many were unsure about their availability for focus group meetings and/or interviews.

Another key limitation was research fatigue. This fatigue was especially evident within the Bamburi community where respondents expressed concern that after numerous previous studies, they had never experienced any improvements in their livelihoods as a result of the research. In addition, they complained that researchers did not report back the findings of their research. As a result, some were reluctant to participate in the research, and this resulted in smaller numbers of participants in the focus groups. Another limitation was that due to research timelines the data collection period covered 3 weeks in the field. In view of the small sample size, it is recognised that it may not be possible to generalise the findings from the small data set to the entire community.

Finally, certain key informants could not be reached during the fieldwork as they were away from office. This meant that the researcher had to send the questions via email to be answered electronically, thereby limiting the one-on-one interaction between the researcher and these key informants.

1.5 Structure of Thesis

This dissertation consists of six chapters. The first chapter introduces the dissertation, the rationale for the study as well as its aims and objectives. It also introduces the case study sites and identifies the study limitations. In the second chapter, background literature pertaining to MPAs globally, in Africa and in Kenya is reviewed. This chapter further explores the importance of understanding perceptions of local communities to conservation initiatives as a means to improve management. It then discusses the different types of MPA management approaches and provides background to the Kenyan context of MPAs. The third chapter explains the research approach and outlines the methods employed for the data collection and analysis. Chapter four presents the research findings that emerged from the data collected and analysed and the fifth chapter discusses these findings in relation to literature reviewed in Chapter two. Chapter six provides a conclusion to the study and offers a few recommendations.

Chapter 2- Literature Review

2.1 Marine Protected Areas Globally

Increasing pressure on coastal and marine systems from human activities, exploitation of resources and migration of human populations to the coast have led to calls for greater protection of these systems (Adger et al., 2005; Cinner et al., 2012; McClanahan et al., 2016). MPAs have thus been established globally as a primary tool for fisheries management and biodiversity conservation (Agardy et al., 2003; Christie et al., 2003; Rodwell et al., 2003; Pomeroy et al., 2004; McClanahan et al., 2006; Nursey- Bray, 2011; Bennett & Dearden, 2014). They have also been established for educational and research purposes as well as for tourism development (Christie et al., 2003; Pomeroy et al., 2004; McClanahan et al., 2006; Christie & White, 2007). MPAs have progressively been implemented the world over with places like Australia, Philippines and the United States at the forefront with regards to MPA management and conservation involving local and rural communities (Nursey- Bray, 2010).

MPAs may be defined as "areas that afford some special protection to parts of the ocean for conservation purposes" (Edgar et al., 2007: 533- 534). MPAs take many forms globally such as no- take zones, closed areas, multiple- use and selective- use zoning. They also have different names such as sanctuaries, parks or even reserves (McClanahan et al., 2006; Christie & White, 2007; Ferse et al., 2010; Borrini- Feyerabend et al., 2011; Jentoft et al., 2011).

These terms are applied and used in different ways globally. The sizes of MPAs also varies from less than two hectares in some community-based initiatives to thousands of kilometres for large marine networks and parks such as the Great Barrier Reef National Marine Park in Australia. Similarly, some MPAs are permanent while others may be designated for a defined period (Christie & White, 2007).

MPA establishment and implementation has largely been motivated by marine scientists and conservation agencies using a top-down, science- based approach in many areas of the world. The declaration of MPAs especially in areas that affect local communities dependent on resources have led to tensions and resistance from communities (Sowman et al., 2011; McClanahan et al., 2009).

While conventional top-down, science-based approaches to resource management have been acknowledged as some of the reasons for the failure of MPAs, there have been increasing calls for collaboration between natural and social scientists and a sharing of knowledge among researchers to facilitate interdisciplinary socio- ecological research (Agardy et al., 2003; Sowman, 2011; Abecasis et al., 2013). Since MPAs are complex socio-ecological systems, an array of disciplines needs to be involved as well as local knowledge holders. Consequently, the planning and management of MPAs require greater collaboration among natural and social scientists as well as collaboration with local communities in order to improve local support and increase understanding of conservation proposals and their benefits (Christie et al., 2003; Agardy et al., 2003; Abecasis et al., 2013; Sowman et al., 2014).

Bennett's (2016) work has revealed that a broader perspective of conservation science is needed for effective outcomes. A wider perspective on MPAs that incorporate quantitative or qualitative socio-ecological data in addition to traditional knowledge may guide and inform policies, management decisions as well as ecological outcomes.

MPAs elicit different meanings to different user groups; meanings that are influenced by the original objectives and goals of the establishment of a particular MPA and how they are set-up and managed. For example, conservation and fisheries scientists view MPAs as a refuge for threatened species and

for stock rebuilding. Local communities may view these same species as important for food and cultural purposes. Government, on the other hand, may view the MPA as an important tourist attraction that can generate revenue. Different interpretations depict the vested interests of the various stakeholders (Agardy et al., 2003). In some instances, MPAs may create conflict due to power dynamics among stakeholders (Agardy et al., 2003; Jentoft, et al., 2010).

In many cases, local coastal communities have felt alienated from their own resources which they feel are part of their culture, identity and lifestyle. Local and rural communities have been living lives strongly connected to these resources and are actually their original custodians, yet most of them no longer benefit from these resources (Brechin et al., 2003; West et al, 2006; Ferse et al., 2010; Bennett & Dearden, 2014a).

While most MPA managers strive to meet biological goals, which are normally the key aim especially with the state-driven governance approaches, they tend to overlook the social aspects of MPAs. This focus on the ecological objectives continues despite international multilateral agreements requiring consideration of social dimensions (Sowman & Sunde, 2018). When social objectives of MPAs are incorporated in decision making, they are often incorporated too late to make any significant impact (Christie et. al, 2003; McClanahan et al., 2006). It is against this background of state-imposed MPAs and associated impacts on local communities that this study is formulated.

Research has shown that top-down and regulatory approaches to MPA management have denied communities access to coastal areas and resources, and little or no say in decision making (McClanahan et al., 2006; Bennett & Dearden, 2014a). To make matters worse, most of these decisions regarding MPAs and their management are often made in cities that are quite far removed from the marine resources that they are purported to protect. Local communities argue that these decision makers know little or nothing at all regarding their way of life and have little regard for their traditional ecological knowledge and therefore, do not make the best decisions (Bennett & Dearden, 2014).

Consequently, community conservation areas (CCAs), also known as locally managed marine areas (LMMAs) or community closures, have been gaining popularity (Ferse et al., 2010; McClanahan et al., 2016; Kawaka et al., 2017). CCAs are warmly embraced by local communities, and are managed differently depending on the needs of the respective community, either through periodic closures of a marine area and then re-opened after a while, or through complete closure of the CCA for a period of time (Kawaka et al., 2017).

Community closures have been shown to be quite successful especially in attaining the social objectives of MPAs (Ferse et al., 2010; Kawaka et al., 2017). Ferse et al. (2010) provide examples of successful LMMAs in the Indo- Pacific region. An important feature is due to engagement of local resource users in decision making which generates a sense of legitimacy and ownership among users (Christie & White, 2007; Borrini- Feyerabend et al., 2011).

Research suggests that MPAs need to be adapted to cater for the unique social, cultural, ecological, socio- political and socio- economic issues present in a particular marine area (Agardy et al., 2003; Sowman et al., 2011). Collaboration of scientists from different disciplines, planners, decision makers and conservationists and local communities is needed to plan and achieve effective management of MPAs. Gaining an understanding of how local communities view, relate to and reproduce their environment, can improve conservation management approaches, actions and outcomes (Bennett, 2016).

2.2 Perception Studies on Marine Protected Areas

There has been an increasing recognition amongst researchers and practitioners of the need to consider the social dimensions of MPAs in planning and management (Christie et al., 2003; Sowman et al., 2014). Investigating and understanding the role of people's perceptions towards the socio-ecological impacts and outcomes of MPAs is thus growing in importance (Ordoñez-Gauger et al., 2018). Bennett (2016:4) defines perceptions as "the way an individual observes, understands, interprets and evaluates a referent object, action, experience, individual, policy or outcome." In recent years, perception studies have been undertaken in the marine sphere to inform planning and management decisions (Brechin et al., 2003; West et al., 2006; Bennett, 2016).

Literature has shown a number of benefits arising from perception studies such as understanding how local communities view the positive and negative effects of conservation initiatives and making changes to better incorporate people's views and values (Bennett, 2016; Ordoñez-Gauger et al., 2018). A number of insights can be acquired from the study of local perceptions that may improve conservation management which include how people perceive and experience the ecological and social impacts of conservation and the acceptability of conservation management approaches and outcomes (Bennett, 2016; Ordoñez-Gauger et al., 2018).

Conventional and science- based approaches to conservation have failed to examine local resource users' beliefs, values, culture, identity and norms, therefore perception studies are useful in understanding the opinions of local communities with regards to conservation initiatives as expressed in their language. They provide a sense of their understanding of conservation and what it really means to them especially the intangible aspects such as connection to their way of life (Sowman & Sunde, 2018). Many local communities feel their culture is connected to nature, therefore, they oppose conventional, science- based and westernised ideas of conservation that try to restrict them from their surroundings (West et al., 2006; Bennett & Dearden, 2014b).

Meanings are embedded in their environment and their use of and access to resources. For instance, restricting access to traditional waters would mean loss of a source of food and livelihood but also rights to traditional practices attached to the place. Thus, the feedback from perception studies can be presented to relevant conservation authorities and they can use this information to revise and adapt management practices and approaches to better reflect the views and needs of local people. Perception studies are also useful to assist in gaining a better understanding of the legitimacy, effectiveness and acceptability of a particular conservation management approach. In this regard, perception studies illuminate the negative impacts and benefits that local communities perceive to be associated with MPAs (Bennett, 2016). Essentially, perceptions are people's realities of what they are experiencing through viewing and reproducing their surroundings (West et al., 2006).

Perception studies are thus valuable in terms of enhancing the understanding of local communities' views on social, ecological and governance impacts of MPAs, which can inform adaptive management, therefore, improving their livelihoods. These studies also provide insights into the appropriateness and legitimacy of conservation governance including the appropriateness and support of rules and decision-making processes.

In as much as perception studies provide guidance to inform management and decision-making, they have a number of limitations. Perception studies on MPAs are significantly influenced by the initial expectations of the different community groups, therefore, care must be exercised to avoid

generalisations to the entire community. While perception studies may be limited to a particular group of people, they highlight the groups that need support the most and those that need to be further engaged (Silva & Lopes, 2015). The results of studies on perceptions may not necessarily be generalisable to an entire community, however, they provide useful insights and information.

Bennett (2016) also highlights limitations regarding research on perceptions explaining that results from these studies may be highly subjective, and therefore, may not be very useful to determine causal links between conservation initiatives and outcomes especially in socio- ecological systems. As perceptions are heavily influenced by people's past experiences, they are not produced in isolation. The socially constructed nature of perceptions may mean that personal perceptions are at odds with conventional science. Furthermore, an individual's perceptions of socio- ecological outcomes may be negatively affected by unfavourable conservation management and governance approaches. However, despite these limitations, perception studies provide invaluable information that can inform policies as well as management and decision-making.

2.3 Marine Protected Areas in Africa

MPAs as management tools in Africa were implemented a bit later than the rest of the world. Most coastal and marine waters in Africa were originally under traditional management where access was open and free to the community and there was not much need to protect the resources from external threats (McClanahan et al., 2016).

With increasing pressure in coastal areas and resources, due to mining, forestry, tourism development and migration to coastal areas, these areas are in need of greater protection. The original inhabitants of the coastal areas have always been conservationists (Ferse et al., 2010). However, degradation of coastal resources and restricted access has led to unsustainable practices in some areas. Furthermore, although promoting a conservation agenda, it appears that governments in African countries are driven more by revenue obtained from tourism and other investment opportunities that accrue funds declaring MPAs than by consideration of local needs and social wellbeing. Many local communities that have been residing adjacent to these marine areas for generations have not benefitted from conservation efforts. The short-term positive outcomes are often directed to other stakeholders while the locals are left to bear the long-term negative impacts (Jentoft et al., 2011).

MPAs in Africa were established under different eras (McClanahan et al., 2016). The Tsitsikamma National Park in South Africa was established in 1964 under the National Development State after transition of the control of marine reserves from the Cape Colony (Sowman et al., 2011). Kenya established its first state-run MPA in 1968 (the Malindi-Watamu National Marine Park & Reserve) which is among the oldest MPAs in Africa (Muthiga, 2009), as an initiative to conserve biodiversity as well as to increase tourism shortly after independence in 1963. However, like many state- based MPAs in Africa, its initiation led to a lot of resistance from local fisherfolk (Muthiga, 2006).

Similarly, South Africa has also established several MPAs such as the iSimangaliso Wetland Park in Kwa- Zulu Natal Province and Dwesa-Cwebe MPA in the Eastern Cape Province which are managed by the state, through relevant conservation agencies. South Africa being a key tourist destination in Africa has attracted lots of tourists to these MPAs which have led to both positive and negative outcomes for the adjacent communities (Sunde & Isaacs, 2008; Sowman et al., 2011; Sowman et al., 2014; Wynberg & Hauck, 2014). However, not all MPAs are supported as they often infringe on the rights of local communities as in the case of the Dwesa Cwebe MPA in the Eastern Cape, South Africa. The local

communities challenged the establishment of the MPA in the hopes of regaining access to their ancestral lands arguing that because a lot of their customary rights had been violated (Sunde, 2014).

Thus, it is imperative that managers and policy makers consider adjacent local communities while drafting their management plans and policies so as to be able to make meaningful changes that will be sustainable in the long run and address the socio- economic and wellbeing needs of local communities (Borrini- Feyerabend et al., 2011).

2.4 Approaches to Marine Protected Area Management

Governance of protected areas refers to the interactions, powers and responsibilities of various actors in the process of managing the resource system. MPAs exist under different management approaches such as traditional regimes, top-down approaches (i.e. state- centred), bottom-up approaches (i.e. community- based), private models and collaborative governance approaches. MPA governance ought to be tailored to the socio-economic, socio-political, cultural and ecological dimensions of a given place; since each socio- ecological system is unique (Christie et al., 2003; McClanahan et al., 2006; Christie & White, 2007). The following section describes the different management approaches as shown in table 2.

2.4.1 Top- Down Approaches

Top down approaches are also referred to as centralised models such as the state-run parks and reserves. These approaches were common during colonial times and after independence in most developing nations. Many were put in place by colonial governments as a means to extract natural resources and in so doing, they replaced traditional regimes. At present, many states apply this approach so as to meet global conservation targets (Christie & White, 2007). This also results in their failures as these global targets are usually generalised and are not adapted to the issues of the specific places (Christie & White, 2007). Each local context has its own unique culture, history, traditions, politics and management systems that influence the impacts, outcomes and implementation of the MPA (Christie et al., 2003).

State-driven MPAs are normally designated under government regulations with little or no involvement from local communities. Therefore, they often face a lot of resistance and opposition from local communities (McClanahan et al., 2006; Christie & White, 2007; Bennett & Dearden, 2014b). They are usually larger in size than community managed MPAs (Christie & White, 2007; Borrini-Feyerabend et al., 2011) and therefore almost always have a higher chance of biological and economic success.

State-run MPAs are also deemed to be much more stable because they have the support of the national government and access to funding through donors and other stakeholders (McClanahan et al., 2006; Borrini- Feyerabend et al., 2011). They also have the advantage of being marketed by the government such as through government websites, publications, pamphlets and social media platforms. Therefore, most of them are well known among tourists and have a good chance of serving as tourist attractions and generating revenue (Christie et al., 2003; McClanahan et al., 2006). According to some researchers, state-run MPAs often have scientific backing as well as proper legislative mandates in place which may make them quite effective at times in attaining ecological objectives (Christie & White, 2007).

2.4.2 Bottom- Up Approaches

Bottom- up approaches are found throughout the Global South and are known as community- based or locally managed marine areas (LMMAs) or community conservation areas (CCAs) depending on the context (McClanahan et al., 2006; Christie & White, 2007). In Kenya, they are referred to as *tengefu* which literally translates to mean 'something that has been set aside for conservation purposes' in Swahili (McClanahan et al., 2016; Kawaka et al., 2017).

In most cases, community closures are usually applied where the communities' voices are strong and where institutions that make decisions are weak (Christie et al., 2007). In some instances, they may also result from community initiatives with minimal technical or financial support from the government (Christie et al., 2007). CCAs may also come about from exchange visits to other well-working community closures that may encourage the visiting local communities to start their own conservation initiative (Maina et al., 2011; Mahajan & Daw, 2016; Kawaka et al., 2017).

These community-based approaches are characterised by local coastal communities playing a key role in management by taking control and being accountable for monitoring, implementation and rule enforcement in the protected areas (Borrini- Feyerabend et al., 2011). Locally managed MPAs tend to be smaller in size than state- based MPAs (McClanahan et al., 2006).

Table 2: Summary of the different MPA management approaches (Adapted from Christie & White, 2007).

	Marine Protected Areas Governance Approaches				
	Centralised	***Bottom- up***	***Co- Managed***	***Private***	***Traditional***
Management approach	State- run	Community driven	Joint management between resource users and other interested and affected stakeholders	Run by private sectors	Run by community according to social norms and practices
Size	Large in size (may be thousands of kilometres)	Smaller in size	May be as big as state- run MPAs or as small as community-based closures	Small in size	Usually small in size
Sustainability	More stable, more funding and stronger technical and financial resources	Not easy to expand to large network	Sense of legitimacy and ownership provided to locals	Not very common	Previously sustainable system of governance before globalisation
Level of participation	Minimal or no local community participation in decision making	High level of community participation in decision making	Participatory and inclusive	Tensions and conflicts between state and private sector on taxes	Weak and fragile; collapsing due to globalisation, population growth and migration
Level of support	Minimal support from local community	Strong community support	Generally strong support from local communities	Limited support from local community	Supports local practices such as celebratory feasts or initiation rituals

There are a number of benefits associated with bottom- up approaches such as a sense of legitimacy and ownership among the locals, meaningful engagement and participation with the local people as well as a sense of belonging, especially for indigenous or marginalised rural communities during decision making and implementation. In most instances, there is also a perceived increase of trust by the locals, therefore, limited opposition (Christie & White, 2007; Borrini- Feyerabend et al., 2011).

While the literature suggests mixed outcomes from the community- managed conservation initiatives (Hilborn et al., 2004; Edgar et al.,2007), a study conducted by McClanahan and others (2006) in Indonesia and Papua New Guinea suggests that in a community management approach where there was periodic fishing; the biomass of fish within the reserve was higher than the other areas where fishing was totally prohibited (parks). This was quite contrary to the popular understanding that "no-take" reserves managed by the state provided the most ecological benefits (McClanahan et al., 2006). Remarkably, in the above study, the CCAs, which were designed primarily to meet the communities' social-economic goals such as benefits from tourism, also ended up fulfilling the ecological objectives. Locally managed marine approaches have appeared to provide significant socio-ecological benefits despite minimal external sources of funding, government support and sometimes periodic closure of the systems (McClanahan et al., 2006).

2.4.3 Co- Management Approaches

Co-management approaches are also referred to as collaborative, joint management, or shared governance approaches (Borrini- Feyerabend et al., 2011). Co- management involves local communities, government agencies and policy makers as well as other stakeholders such as private institutions or NGOs in decision- making (Bennett & Dearden, 2014b). They are neither top- down nor bottom- up approaches but ones which realise that majority of interested and affected parties are legitimate stakeholders that have the best interest of the MPA at heart. They may be considered as a trade-off between a bottom- up approach and a top-down approach (Christie & White, 2007).

Co-management approaches are being advocated in management of resources because they are inclusive, participatory and legitimate (Bennett & Dearden, 2014b; Cinner & McClanahan, 2015; McClanahan et al., 2016). Co-management approaches are also a form of empowerment for communities especially through the provision of intangible values such as capacity building, and education and research. Co- management also brings together various stakeholders but does not lean on their personal views (Jentoft, 2005).

Most state MPAs in Kenya are slowly embracing this type of approach in order to resolve the conflicts and hostilities that have long existed between managers and local communities so as to generate peaceful and meaningful objectives for the MPAs in the best interests of all stakeholders and especially the local communities. The co-management approach was witnessed in Kenya through the introduction of the Beach Management Units (BMUs) in the year 2007 (Cinner et al., 2009; Cinner et al., 2012a; McClanahan et al., 2016).

2.4.4 Traditional Management Approaches

Traditional regimes were based on social norms and culture practices of a group. Globalisation, colonialism, population growth and migration have eroded many of these governance systems. They are deemed as fragile but very capable of supporting local or communal activities (McClanahan et al., 2006; Christie & White, 2007). Traditional management approaches in Kenya were through ancestral and clan lineages which made decisions on issues such as fish landing sites and selection of fishing

areas (McClanahan et al., 2016). In addition, these approaches respected clan elders as heads and these areas were considered sacred through performing certain celebratory or initiation rites (McClanahan et al., 2005; McClanahan et al., 2006).

2.4.5 Private Management Approaches

Private approaches to MPA management are not very common. They involve private individuals or companies managing a marine area. A good example is Chumbe Island in Tanzania (East Africa) which came about through privatisation of a common resource. Private MPA management approaches are characterised by tensions and conflicts especially when a public resource is involved or whenever the government imposes rules or fines on the privately managed resource (Christie & White, 2007).

2.5 Marine Protected Areas in Kenya

Coral reefs are the one of the main ecosystems afforded protection through the MPAs in Kenya (Cinner et al., 2012a), however, seagrass beds and mangrove forests are also quite common. The Kenyan coastline is roughly 500km in length (Muthiga, 2003). Currently, Kenya's total marine area covers 112,400km^2, but only 904km^2 is under marine protection; therefore, 0.8% of Kenya's total marine area is under MPA coverage (UNEP- WCMC, 2018).

Top down, centralised MPA approaches have been dominant in Kenya with little involvement of local communities in decision making. This approach has led to conflicts between the state and the local communities over lack of consideration for their opinions and even loss of traditional fishing grounds to the state. This triggered tensions which even led to the collapse of the proposed Diani- Chale marine reserve in 1999 along the South coast of Kenya (McClanahan et al., 2005; Cinner & McClanahan, 2015). Consequently, community- based approaches and co- management approaches have come about in an effort to address the negative social impacts associated with state- based management approaches in Kenya (Cinner et al., 2009; Cinner et al., 2012a; McClanahan et al., 2016).

Kenya's MPA management system has developed over three different eras. The first was before and during the colonial period where access to marine resources was quite open and communities had their own traditional ways of managing resources and conflict-solving mechanisms through their Council of elders. The coastal resources in Kenya were managed through a traditional governance system where traditional ecological knowledge and social norms were applied to determine regulations that oversaw resource utilisation (Cinner et al., 2009). Small- scale fishermen from outside regions had to seek permission for access from the community elders (McClanahan et al., 2005). The elders played a role in giving permission for fishing and resolving conflicts over resource utilisation such as type of gear to be used and where to fish (Cinner et al., 2009).

With the advent of independence in the year 1963, Kenya became a sovereign state. The Kenyan government then proceeded to promulgate laws and policies relevant to fisheries management which included use of MPAs as management tools. These policies led to the formation of institutions that were to execute and implement the mandates of these regulations set by the government. One of these key laws that came into existence was the Fisheries Act of 1967 that saw the formation of the Ministry of Fisheries which led to the establishment of the State Department of Fisheries and the KWS (Frontani, 2006). The KWS was mandated to oversee the management of terrestrial and marine wildlife resources in the entire country.

The third era saw the introduction of community- based approaches and co- management regimes in the years 2006 and 2007 respectively (Cinner et al., 2012a; McClanahan et al., 2016). Community based approaches came about in order to increase resource user participation in decision making and thus improve management. The use of the word *tengefu* implies ownership of the marine closure by the community in their own language. This was a shift from the word *parki*, borrowed from English, which depicted a transition from the colonial terms and dominant top- down regime of MPA management in Kenya (McClanahan et al., 2016). The first community-based approach in Kenya was established in 2006 which is the Kuruwitu community closure (*tengefu*) and is a focus of this study.

In Kenya, community- based initiatives and some state- based MPAs follow a co- management approach by establishing the Beach Management Units (BMUs). BMU enforcement rests with the local communities while NGOs and various government departments offer support (Mahajan & Daw, 2016). Co- management was initiated in Kenya in the year 2007, through the introduction of the BMUs in fisheries legislation. The BMUs were initiated as a collaboration between the government, the local communities, especially fisherfolk, and other stakeholders such as NGOs to jointly manage the coastal resources (Cinner et al., 2009; Cinner et al., 2012a). The BMUs were free to develop their own rules that governed their operations but with final consent from the Fisheries Department Director (Cinner et al., 2012a; Cinner et al., 2009). The bylaws introduced had to be consistent with the current National Fisheries Act legislation (McClanahan et al., 2016). The BMU bylaws would govern restriction on time, space, fishing gear or species harvested in consultation with the Ministry of Fisheries Development and other stakeholders (Cinner et al., 2009).

Where a BMU was located within an MPA or reserve managed by the KWS, the BMU was required to adhere to KWS regulations but still operate under the national BMU regulations. This created conflict regarding marine resource management in several cases. On the other hand, other community- based organisations or closures falling within the BMU area of jurisdiction were to adhere to the respective BMU by- laws in accordance with the BMU regulations. The BMUs were also required to monitor and evaluate their own performance (Cinner et al., 2009; McClanahan et al., 2016). Overall, the BMUs as a co- management approach were favoured by the Kenyan government and other stakeholders except for the local communities who felt that the BMUs were not legitimate because they gave power to outsiders which generated conflict.

Kenya currently has four marine national parks and six marine national reserves run by the state and twenty-four community based marine closures or locally managed marine closures (McClanahan et al., 2010; Kawaka et al.,2017). In Kenya, the state-run MPAs are generally categorized into two distinct categories. The marine parks which are fully protected and the reserves which are partially protected. The parks are generally 'no- take' zones where no type of fishing is allowed but recreational activities such as snorkelling and scuba diving are allowed. The reserves allow some fishing activities using sustainable fishing gear (Muthiga, 2009; Ransom & Mangi, 2010; Maina et al., 2011; Kawaka et al., 2017). An example of a state-based MPA is the MMNP&R that has since its establishment (1986) encountered a lot of hostility and resentment from local fishermen and adjacent communities (Frontani, 2006) and is a focus of this research. In an effort to meet global targets and regional objectives of conservation, the Kenyan government was focussed primarily on biological goals of state MPAs, hence, most social goals of the state MPAs were neglected (Muthiga, 2006; Muthiga, 2009).

Chapter 3 – Research Methods

3.1 Introduction

This chapter describes the research approach, methods employed in the study, as well as the ethical issues taken into account during the fieldwork in Kenya. This research employed qualitative methods in the case studies (Mombasa and Kuruwitu) which included both key informant interviews and focus group meetings. The study involved a three-week fieldwork period inclusive of a scoping visit, organisational meetings, one-on-one semi-structured interviews with key informants as well as electronic key informant interviews, which are elaborated on in this chapter.

3.2 Research Approach

This research is informed by a case study approach which involves an in-depth, qualitative investigation into a particular issue or phenomenon in an illustrative case or cases. The case does not have to be a 'typical' case but rather a case that sufficiently illustrates the relationships between people, their environment and historical events. Case studies allow one to gather information regarding a site and its people among other social aspects (Berg et al., 2004). This research will examine the perceptions of two communities to conservation initiatives in their areas and ascertain to what extent their perceptions of the MPA and its impacts conform with contemporary thinking regarding the benefits and impacts of different types of MPA governance.

3.3 Methods

Focus groups and key informant interviews were the primary methods used in this study. Qualitative methods were used as they are considered appropriate in contexts where rich and in-depth understanding of communities' views are required.

3.3.1 Scoping

Before venturing into the respective communities to collect the data, introductory meetings with the heads of the BMU's at both Bamburi (Mombasa National Park) as well as Kuruwitu were organised. The introductory meeting served to elaborate the purpose of the research as well as the potential value and usefulness of the research to the community. The dates and times for the focus group meetings were decided in consultation with the BMU heads. Letters of invitation to the focus group meetings were then sent out to the respective groups in Kiswahili where the purpose of the research and the communities' benefit of participation were explained.

3.3.2 Focus Group Meetings

Focus Groups are a key tool in perception studies which allow local communities to express their views and concerns. Perceptions are socially constructed and influenced by one's values, norms, beliefs, knowledge systems, surroundings and past experiences (Bennett, 2016). Focus groups were employed as they are participatory by nature and allow the researcher to directly engage with the respondents. Furthermore, focus groups allow communities to share information and learn from one another through the meetings and are therefore a form of social learning (Newing et al., 2011). Focus groups also enabled the researcher to capture the collective thoughts of resource users and allowed for greater numbers of participants to share information, therefore creating a sense of inclusivity (Mahajan & Daw, 2016).

A total of four focus group meetings, two per case study, were conducted at the two sites. Discussions were centred around two interest groups from both study sites – direct resource users (FG1 and FG4)

and indirect resource users[1] (FG2 and FG3). Each focus group constituted approximately 13 members of both men and women. For the direct resource users at both case study sites, the majority of the participants were male because their roles such as fishing are considered traditionally male roles. In view of the patriarchal nature of Kenyan society, women may not engage in these roles as they are regarded as taboo. In contrast, there are roles that are considered inappropriate for men to do and as such, only women perform them such as cooking fish for sale which is normally done by the women traders.

Timelines were used in the focus group meetings to determine the history of the management eras over the course of years in both case study sites and provide background information. An institutional mapping exercise was conducted during the focus group to better understand the role of institutions in managing the MPAs or providing assistance to enhance livelihoods within the respective MPAs.

3.3.3 Key Informant Interviews

Key informant interviews[2] were used in this study to gather in- depth information from government officials and scientists involved with the management of the MMNP&R and Kuruwitu *tengefu*. Key persons within the community such as the village elders, fishers and fish workers were also targeted. These interviews were employed as they allow for direct engagement with key persons that have significant experience of the MPA and its governance.

Key informants within the local communities were interviewed immediately after the focus groups on the same day so as to save on time and costs. The key informants from the government offices and NGOs were interviewed on separate days. Due to the busy schedules of government officials and those working in NGOs, some of these key informant interviews were conducted electronically.

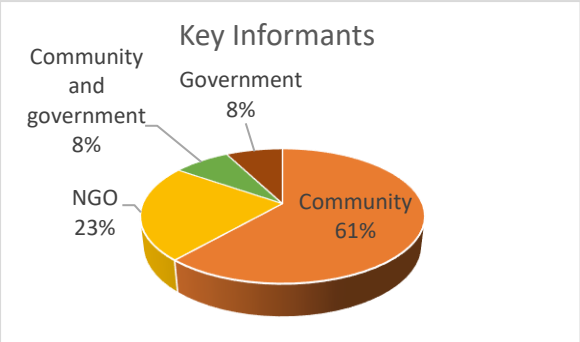

Figure 2: Percentage of key informant respondents

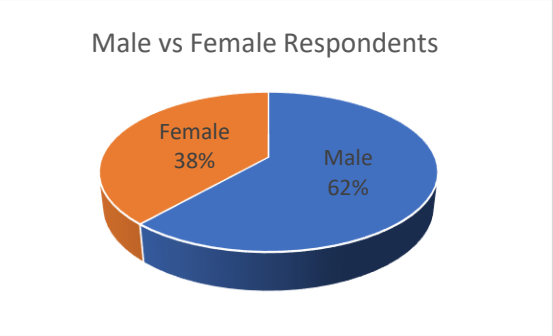

Figure 3: Percentage of male vs female key informant respondents

This study targeted 13 key informants including eight who were from the local communities living adjacent to the MPAs under investigation and five from the government and NGOs. Out of the five from both the government and NGOs, two were from the Kenya Wildlife Service (KWS- Government) and the State Department of Fisheries (SDF) while the other three were from two NGOs namely; Coastal Ocean Research and Development -Indian Ocean (CORDIO) and World Conservation Society

[1] The direct resource users (fishers) comprised of members of the community that were receiving resources directly from the respective MPA. The indirect resource users were those that received benefits from the MPA through a supply chain of interceptors but were not directly involved with the MPA such as women traders (mama karanga), hoteliers, business people, tourists among others.

[2] The community key informants interviewed were not from the focus groups so as to avoid duplication of information and provide contrasting narratives

(WCS). The criteria for selecting key informants were as follows: significant experience living or working in the area, knowledge of the MPA and/ or engaged in management of these MPAs at some time or another. The breakdown of respondents across government, NGOs and Fishers as well as the percentage of female versus male respondents is given in Figures 2 and 3. The ages of key informants ranged between late 40s and early 60s.

Key informant interviews provided useful information and insights and allowed for clarifications of information raised in the focus group meetings through further questioning. This method of data collection also enabled the researcher to further explore practices regarding the communities' past management strategies (Kvale & Brinkmann, 2009; Newing et al., 2011) as well as explore their views regarding current practices. The researcher prepared an interview schedule with relevant questions to guide the interviews which are provided in the appendices.

Short notes were taken during the interviews and focus groups to corroborate the findings from the other methods mentioned before. Photographs were also taken while conducting the research to depict the data collection process (Newing, et al., 2011).

3.3.4 Limitations of Methods

As this study employed key informant interviews and focus groups with a relatively small number of participants, it is important to recognise the limitations of drawing inferences from relatively small data sets. The two focus groups and four key informant interviews from each case study site as well as five key informant interviews with members of organisations working in these areas, were randomly selected, therefore, deemed to be representative of the Kuruwitu and Bamburi communities. While it may not be possible to draw community wide findings from these two samples, nevertheless, the data from the small sample of respondents provides important information regarding perceptions of community members to the two protected areas. Limitations of drawing community wide perceptions from such a small data set includes missing out on key issues that may have been highlighted by other community members not present in the study. The differing and contrasting opinions may not be generalisable to or representative of the entire community. In addition, the feedback from the study may be more favourable to the few members that participated in the study. However, seeing that key informants were knowledgeable and had experience with living or working in the area, it is assumed they accumulated knowledge representative of the broader respective communities.

For the focus groups, direct resource users (mainly fishermen) and indirect resource users, participated in the study. The views provided are reflective of resource users that participated in the study and may not adequately reflect the views of all resource users. Furthermore, according to Cooke & Kothari (2001), the researcher needed to be aware that the results of the research may have been influenced by factors such as the power relations and group dynamics of those involved in the study and what they may have hoped to achieve from the research output.

3.3.5 Review of literature

In addition to the focus groups and key informant interviews, secondary sources of literature were reviewed such as national government reports and reports prepared by NGOs and other sources of published materials relevant to the two case study sites and MPA management globally and in Kenya.

3.4 Data Analysis

3.4.1 Analysis of qualitative data

Qualitative data was captured through the focus groups and key informant interviews. For the key informant interviews, once the data collection was finalised after each day, the data was entered into a Microsoft Excel spreadsheet while still in the field when the interviews were quite fresh in the researcher's mind. The interview schedule responses were typed into a Microsoft Word template exactly as they were captured (Kvale & Brinkmann, 2009).

Both the focus groups and key informant interviews were captured using a digital voice recorder as well. The recorded audio responses from the focus groups were transcribed to a Microsoft Word template. The responses were then coded according to the emergent key themes and then used to create tables to show the comparisons and differences of these emerging themes. Through this process of analysis, the researcher was able to generate meaning from the data. Although most of the fieldwork was conducted in Kiswahili, the transcriptions were translated into English.

Secondary literature sources were also used while conducting the analysis in order to corroborate the findings based on information sources from research published by governments, academia and inter-governmental organisations among others.

3.5 Research Ethics

As a requirement by the University of Cape Town (UCT) with regards to any research that involves human participants, this research considered ethical issues. This is especially important when the research involves rural and disenfranchised communities. The objectives of the research were made explicit and necessary permission was sought from the traditional leaders. As is the practice in Kenya, members of focus groups and local community key informants were compensated for their time.

Before embarking on the research, the written proposal was submitted to the Faculty of Science Research and Ethics Committee together with the Research Ethics Approval Form and a copy of the Informed Consent Form. The researcher was required to explain carefully the purpose of the research, the potential benefits for the persons involved as subjects, as well as a commitment that their responses would be kept confidential and that feedback of the findings of the research would be communicated to them.

As the research was conducted with rural communities, permission was sought from the communities, tribal leaders and community elders at the study sites, either orally or in the form of a written Prior Informed Consent form before conducting the interviews or focus group discussions during the research process.

The respondents involved in the study were assured of anonymity and confidentiality in their responses before the research process began. The final dissertation will be shared with the two communities participating in the study as well as relevant County Government Officials and NGOs working with the communities.

Chapter 4- Findings

4.1 Introduction

A primary aim of this research was to ascertain the perceptions of the Bamburi and Kuruwitu communities living adjacent to the Mombasa Marine National Park and Reserve (MMNP&R) and the Kuruwitu community closure (*tengefu*) respectively in Kenya regarding the benefits and negative impacts associated with the establishment and governance of the MPA. The secondary aim was to compare the perceptions of these two communities in relation to MPA management approaches employed. In order to gain a better understanding of the communities' perceptions of the park, the study used qualitative methods, mainly focus groups (FGs) and key informant interviews. FG1 and FG4 were comprised of fishers from Mombasa and Kuruwitu respectively while FG2 and FG4 were the indirect resource users from Mombasa and Kuruwitu. This chapter presents the findings of the study.

4.2 Mombasa Marine National Park and Reserve (MMNP&R)

4.2.1 Overview and History of the Study Site

The first case study focuses on one of the communities living adjacent to the MMNP&R on the Kenyan coast, namely, the Bamburi community (See Figure 1). The MMNP&R was formally established in 1986 by the government who adopted a state- centric approach to the management of the marine resources within and around the park. FG participants explained that the area used to be protected through a traditional system of governance. The community reported that, before the park establishment, there was a village elder that would oversee the activities around the MPA. Permission for access to fishing and landing sites was sought from elders and chiefs before the government took over. Landing sites were managed through ancestral and clan rights. Artisanal fishers from other regions also had to seek consent in order to fish in the area. The community and outsiders adhered to these community rules. There were consequences for misconduct such as being temporarily banned from fishing or banished from the community altogether. The local elders minimally involved the community when the issue of park establishment came along, which triggered resistance from the community after the inception of the MMNP&R.

4.2.1.1 Community perspectives regarding reasons for park establishment

The reasons for establishing the Mombasa Park that emerged during the FGs were categorized into social, environmental and economic reasons (see table 3).

Table 3: Community perceptions regarding the reasons for Mombasa MPA establishment

Social reasons	***Environmental reasons***	***Economic reasons***
Community would benefit by receiving 10% of the park's profits from the state.	The park area is characterised by good habitat (plenty of corals where fish live) and acts as nursery grounds.	Generate revenue for the central government. Promote infrastructure such as roads, electricity and water.
Community members believed that they would benefit from the park through the building of schools, markets, hospitals and dispensaries.	Protection of marine resources such as corals through preventing the use of unsustainable gear such as spear guns.	Promote tourism to enable future generations to enjoy the resource.

Job promises to the youth as park rangers or wardens as well as internship opportunities.	Biodiversity protection of corals, fish and turtles. Promote increase in sea grass density.	Provision of better livelihoods for surrounding communities.

One of the main environmental reasons for park establishment suggested by the Bamburi community participants was that the locals were utilising unsustainable fishing gear such as beach seines and spear guns. This practice led to the creation of the MPA which imposed restrictions on where to fish, amount of fish caught and the type of vessel[3] used to access the park.

Furthermore, the locals felt strongly that the MMNP&R was established to generate revenue for the Kenyan central government with minimal regard for the adjacent communities that had been dwelling close to the park and obtaining their livelihoods from the sea since the time of their ancestors.

They explained that the government discovered that the area had great potential for economic development through tourism as it was very attractive to foreign visitors. The locals used to take tourists by boats to the reef areas which was one of their livelihood sources before the inception of the park (Cinner et al., 2012a). In contrast, two key informants (state and NGO officials) interviewed were of the opinion that the park was established so as to generate revenue, create jobs through tourism and protect the park, which would subsequently improve the lives of the adjacent communities.

The state then instituted the MPA while making promises to the adjacent communities on how the MPA would positively affect their lives. The community felt that the marine area was much more sustainable before park establishment as the coastal population was small and fishermen used to alternate on fishing grounds and landing sites.

4.2.1.2 Perceptions of participation and consultation in park establishment

It emerged from the FG meetings and interviews that during the inception of the state-based MMNP&R in 1986, the participation of the community was limited. The state key informant explained that after 1986, the interaction between the state and the community was based on state- imposed regulations.

Both key informants and FG1 resource users explained that the Bamburi community were not consulted at all during the establishment of the park or during the formulation of its regulations. A number of reasons were provided for the community's lack of involvement. Some participants disclosed that they were quite young when the proposed agreement to institute the state MPA was informally discussed with the then village elders. Most of their leaders at the time were illiterate, and therefore they could not request documentation of the 'agreement' for follow up.

The FGs also revealed that the community had always felt alienated in the decision-making processes with regards to the park until recently when co-management approaches[4] were introduced. They have reported that rules were being imposed upon them like young children. For these reasons outlined above, the direct resource users were vehemently opposed to the state- run Mombasa MPA.

[3] At the time of data collection, engine boats had been restricted within the park because they generated noise that disturb fish which are highly sensitive to noise and light.

[4] Co-management approaches were introduced in 2007 through the Beach Management Units (BMUs) which are a fisheries management tool in Kenya

Clearly, the approach to park management after 1986 did not provide appropriate and ongoing channels of communication which made the community feel that their voices had been silenced.

4.2.2 Community perceptions regarding the benefits associated with establishment and management of the MMNP&R

4.2.2.1 Livelihood resources, strategies and socio- economic outcomes

The majority of the participants perceived benefits in monetary terms or tangible items. Most resource users were originally fishermen who fished for lobsters, octopus and collecting shells but a number engaged in other small- scale activities in addition to fishing or left fishing for other jobs, therefore there was a decline in fisher numbers with the establishment of the park. While most respondents agreed that fishing and the activities associated with fishing were the main sources of livelihood, trade in snail shells, fruits, coconuts and small-scale enterprises such as curio-selling or traditional preparation of coconut juice for selling were common before the park was created.

After the park establishment came about, new and various forms of employment emerged such as kite surfing training, educational tour guides, leasing of chairs to visitors along the beach, making 'floaters' for swimming from tyres and the selling of various fish species. Hotels sprung up in the area that offered employment to some resource users. State and NGO key informants highlighted that infrastructure such as roads, electricity and water also came about with hotel construction and there was an increase in tourists as a result of the park (see table 4).

In addition, resource users participating in the FG1 and FG2 meetings stated they were currently engaged in a number of livelihoods activities such as hand crafting and small- scale mobile hotel owners among many others. Other resource users multi- tasked between the various jobs so as to maximise their income. A community key informant noted that:

"I work as a tour guide but the reserve provides us with resources such as turtles, corals, octopus, medium sized barracuda fish, parrot fish, red snapper, finger corals, mushroom corals and sponges. These are the main species which also attract tourists to the area and where I currently draw my livelihood from." (Respondent K)

The participants mentioned that these livelihood strategies enabled them to take care of their families, pay various bills such as house rent and cater for their children's school fees. They also managed to use part of the money from the activities to take care of their aged parents. Indirect resource use participants also added that the creation of the state park had provided intangible benefits such as security which reduced incidences of assault along the beach. The existence of the park had improved their ability to diversify their sources of livelihood.

There was a general consensus among the indirect resource users that in high tourist seasons (low rainfall), they received better incomes. On the other hand, the direct resource users did not support the view regarding increased incomes at certain times of the year. While there were positive sentiments regarding the benefits flowing from the park, direct resource users felt that their livelihoods had deteriorated since the establishment of the park. Overall, indirect resource users were more positive regarding the existence of the park and its benefits than the direct resource users. From the above, the community clearly had expectations that there would be benefits flowing from the establishment of the park most of which were not met.

Table 4: Summary of perceived benefits flowing from the park by the Bamburi community

Social	*Environmental*	*Economic*
Increase in recreational use and improved security along the beach	Increase in coral cover and variety of fish species in the park	Increase in tourism
Education and training on marine protection	Increase in fish abundance and turtles in the park	Investment in area through hotels and beach properties
Infrastructure such as roads provided	Increased awareness of ecological value of reserve and management	Diverse occupations through creation of jobs & employment

4.2.3 Perceived negative impacts associated with MMNP&R

4.2.3.1 Tensions and conflicts

Under the previous traditional system of management of the area, participants mentioned that key sources of conflict were mostly internal, for example, when a fisher stole a fishing boat or nets from another fisher. This was resolved through consultation with the elders. However, since the inception of the park, there have been increased conflicts between the local fisherfolk, the state and other fisher communities.

According to the participants of the study, an agreement was made between the community elders and the government officials during the park inception. The adjacent communities were to receive 10% of all the park's revenue from the state. In addition, schools, hospitals and dispensaries were to be constructed in the area by the government, however, the participants lamented that none of these promises had been fulfilled so far. Three community key informants reiterated that most of the promises had not been fulfilled.

Furthermore, the youth were also promised employment within the park as rangers or wardens, however, the majority of the youth in the community are still unemployed[5]. Instead, they complained KWS hired staff from other counties. This practice of offering jobs to outsiders further exacerbated the tension between the state and community. In short, the community felt short-changed by their government. Table 5 highlights the perceived negative impacts of MMNP&R by the Bamburi community.

In addition, the direct resource users who were mainly fishermen, felt that the area that was accessible for fishing before park establishment was much bigger compared to the area open for fishing after the park was established. The reduction in fishing grounds resulted in constant opposition, uprising and protests towards the state. The community felt that their fishing grounds were taken away without proper compensation.

Contrasting opinions between the state and the locals regarding the purpose and goals of the park have since created tensions between the KWS officers and the adjacent communities. In addition, the fishermen continuously ran into problems with the KWS since fisherfolk were being accused of harvesting in the park when they claimed that they had actually been fishing in the reserve.

[5] High unemployment rates among the Bamburi community have resulted to increase in crime and substance abuse among the youth

Table 5: Perceptions of the Bamburi community regarding negative impacts of the Mombasa park

Social	*Environmental*	*Economic*
Tensions and conflicts between park authorities and locals	Reduced fish species in the reserve area	Reduced fishing grounds
Arrests by police for fishing in the park	Overfishing in the reserve	Reduced fish catch in reserve
Relocation due to construction of hotels and poor living standards	Fish poaching within the reserve	Land compensation issues by displaced communities to create space for infrastructure
Protests by community	Pressure on coastal land and resources due to increased population from immigrants	Terrorist threats that lead to decline in tourist and visitor numbers
Minimal involvement of community in park management		Price fluctuations affecting fish prices
Illegal access of the park by commercial fishers through bribery		Restricted access to landing sites through hotel constructions along the beach
Severe penalties set by the state for misconduct		Park access fees constantly increasing

International terrorism was also mentioned as a huge source of tension which affected the activities of the communities. Recent terrorist attacks in various parts of Kenya such as Lamu (North coast Kenya near Somalia border) led to drastic decline in tourist numbers due to safety concerns. It created economic hardships for the locals (Muthiga, 2006; McClanahan et al., 2016).

An NGO key respondent explained that poaching from migrant fishers or fishers from other landing sites was a key source of conflict that possibly contributed to a decline in fish species. This was possibly due to weak enforcement of statutory fishery regulations (Muthiga, 2003). Commercial fishers and outsiders were accessing the park and reserve by bribing the patrol officers as they could afford the bribe money. This practice led the locals to believe that the commercial fishers and outsiders were also responsible for declining fish species especially in the reserve.

4.2.3.2 Perceived negative impacts on livelihoods

In addition to the tensions and conflicts surrounding the Mombasa MPA since establishment, there have been negative effects on the local communities' livelihoods. The inception of the MMNP&R brought with it a lot of changes, some of which were sudden while others were gradual especially the shift in occupation. Some fishermen later on became tour guides or shifted to other small-scale businesses along the beach. Reasons for these shifts in occupation were perceived to be economic. A community key informant narrated:

"I was originally a fisherman but later on became a fish trader due to better prospects. Also, due to scarcity of fish in the reserve." (Respondent M)

Community key informants explained that fishers with modern fishing vessels and good gear would get high quantities of fish, while those with worn- out gear complained that their livelihoods had

deteriorated. Access to landing sites had been restricted through construction of hotels along Bamburi beach. All in all, the community felt that they were worse off due to harsh statutory regulations and corruption.

With regards to livelihood impacts based on fish catch, the FG participants highlighted that some fish species were only present in the park, therefore, they could not harvest such species anymore. According to the fishermen, there existed more fish species inside the park than in the reserve. Some fishermen expressed that the quantity of fish migrating from the park to the reserve was not as plentiful as they had expected. The majority of fishermen were of the opinion that fish abundance had reduced significantly outside the park, therefore, they were not making a profit. They resorted to buying fish from other close towns such as Lamu or Kilifi to meet their demands.

In addition, the fishermen did not understand the significance of an MPA, as they believed that fish came from the sea and were divine resources from God that would never be depleted. Fish catch was said to be affected by the type of vessel used for fishing as well as the monsoon winds. Most of the fishermen still used canoes to fish in the deep waters. As they could not afford engine boats to traverse the deep-sea waters, they felt that their vessels also limited their income.

In summary, despite the park having generated a number of benefits for the communities, they identified a number of negative impacts associated with the park establishment. These negative perceptions and experiences led to mistrust and resentment towards the MMNP&R conservation agencies and their initiatives. Generally, direct resource users felt that there was low income for resource users nowadays compared to the previous years. Both the younger and the older generation were concerned regarding the reduction in the marine area available to them for fishing after park establishment.

4.2.4 Nature and perceptions of management and governance

4.2.4.1 Institutions and stakeholders

With the establishment of the state park in 1986, the Kenyan government took over management of the area through instituting a top-down, centralised approach. The key statutory organisation that was assigned to manage the state parks in Kenya was the Kenya Wildlife Services (KWS). Other statutory bodies that have been involved in the management of the activities within the park include the State Department of Fisheries (SDF) which provides licenses to fishers and the Kenya Maritime Authority (KMA) which offers security.

NGOs such as the World Conservation Society (WCS) and Coastal Ocean Research and Development in the Indian Ocean (CORDIO) conduct research on fisheries as well as coral reef monitoring and evaluation. In 2007, fisheries co-management approaches were required through national legislation that led to the adoption of the Beach Management Units[6] (BMUs) which were spatially delineated based on a minimum of 30 boats at a landing site. The BMUs were set up to be a collaboration between the state, local fishermen and other stakeholders such as NGOs regarding the management of a marine area. Within the BMUs, communities developed their own by- laws which had to be consistent with the national fisheries legislation. BMUs have also been adopted as a management tool at landing sites along MMNP&R coast. However, the BMUs are required to comply with the statutory regulations governing the MMNP&R through the KWS (Cinner et al., 2009). The Bamburi community also has local

[6] BMUs were an effort to introduce co-management of fisheries along the Kenyan coast with legitimate stakeholders. The BMUs were also meant to institute proper fisheries management through registered units.

associations within their community such as the Mombasa Boat Operators Association (MBOA) which assist in management of the resource users.

With regards to management, FGs participants felt that most BMUs were not formed through proper consultation with the community and were hence, not inclusive. Furthermore, most of the resource users were not actually from the respective jurisdictions that the BMU zones covered but were outsiders. Although they felt strongly that the BMUs were a better management approach compared to the state- driven top down approach, they were concerned that these BMUs were a government mechanism to legalise and allow outsiders to fish in their traditional fishing grounds.

Conflicts with regards to management by different state institutions were common within the MMNP&R. For instance, an NGO key informant explained that the County Fisheries office ought to manage coastal waters outside of MPAs but they also licenced fishing in the marine reserves which generated tensions between the county fishers and KWS due to overlapping mandates. The KWS is mandated by the state to oversee licensing of fishers as well. Since BMUs allowed the participation of different stakeholders, findings also revealed that the involvement of numerous resource users often led to disputes especially when certain actors felt that their inputs had not been considered in decision making or with regards to licensing. For instance, the fishermen complained that their elected representatives at the BMUs did not adequately voice their concerns, therefore, causing further suspicion towards the BMU system.

4.2.4.2 Impact of regulations on lives and livelihoods

After establishment of the state MPA, government regulations regarding management of the area came into force through the Fisheries Act 378 of 1967 (Frontani, 2006). Key respondents were equally concerned about community members that had relocated due to construction of hotels along the beach but were inadequately compensated by the state.

Since the establishment of the park, direct resource users such as fishermen felt that they were no longer entitled to free access but instead had to acquire licenses and possess tickets to fish within their area. The process of acquisition of licenses, they believe, had led them to become much poorer. They felt that they were being excluded from accessing their traditionally owned resources through regulations regarding permits to access the park even though they initially had positive expectations of the park:

"We had anticipated that the agreement would instead allow us to share the park with the state and we would, therefore, not need to pay fees to access the park as a community in future. Much to our chagrin, the park regulations still require us to still pay fees to access the park as much as non-residents or visitors of the area." (FG1- Mombasa)

In contrast, the government officials explained that licensing of fishermen was introduced to restrict young boys who were supposed to be in school from fishing. Also, it emerged that fishermen who conducted any harvesting inside the park would be arrested and charged in court. Occasionally, arrests would lead to tensions between the conservation officers and artisanal fishermen that saw use of live ammunition. In addition, the community felt that the penalties set by the state for misconduct were too severe. A key respondent reported:

"Community feels that the laws or regulations have been set to harsh to them especially when one was caught with sea turtles, the penalty is KES 20 million or life imprisonment." (Respondent W)

4.2.4.3 Perceptions regarding access

Due to reduced access to the sea upon park establishment, boat operators were required to obtain tickets from the KWS so as to access the park and take tourists for excursions. They had to pay $25 to purchase the tickets from the ticket booths. Consequently, some impatient tourists opted out of the boat rides due to long waiting periods at the ticket booths. The boat operators therefore incurred losses in terms of clients, fuel and time. This, eventually, generated conflict between the park rangers issuing the tickets and the boat operators. The ticket charges also depended on the type of vessel used to access the park, for instance, one paid more when using a glass- bottomed boat.

Fishers complained that it had become expensive even for tourists to afford the access fees as the fees were constantly increasing. Initially, foreign visitors would pay $5 in the 80s, which then increased to $10 in the 1990s, and $20 around 2010. There was a complaint from fishermen as the tourists were no longer taking boat rides, which led government to reduce the price to $17[7]. Foreign visitors were paying more than the local tourists. Before the park was established, local community tour guides would use canoes to take visitors across the park for as little as $5 (foreign tourists) in the 1980s. Participants noted that the park fees had increased to $20 between 2000 and 2014. However, after numerous complaints by the fishermen and the community at large, these fees were slightly reduced to $17 around 2015. Currently, the international visitors still pay $17 while locals pay Kes. 250 (approx. $2.5).

In summary, a number of statutory organisations and conservation agencies became involved in MMNP&R management after the introduction of co-management through the BMUs in 2007. However, the participants still felt that the BMUs were not inclusive and gave limited consideration to the Bamburi community's grievances with regards to the park management and involvement of outsiders. Furthermore, the increase in conservation management institutions within the MMNP&R through the BMUs generated conflicts among the institutions due to overlapping mandates. Controlled access to the park through licensing was not welcome by the locals. In addition, the locals lamented the severe penalties for misconduct by the state towards them while outsiders would acquire access to the park through bribery. Lastly, there were also complaints over increased access fees that led to a decline in tourist numbers as well as losses linked to time and boat fuel, therefore, enhancing the negative perception towards the MPA by the locals.

4.3 Kuruwitu Community Closure

4.3.1 Overview and History of the Study Site

The Kuruwitu *tengefu* started around the year 2005. Kuruwitu is considered the 'mother of all' marine community closures in Kenya as it was the first community- based closure along the Kenyan coast. Kuruwitu community conservation area (KCCA) consists of six fish landing sites along the shore on the North coast of Kenya (Maina et al., 2011). Of the six landing sites, focus groups were held at Kuruwitu and Bureni landing sites which are all under the broader Kuruwitu Community Conservation Area (KCCA). The Kuruwitu fishing ground at Kuruwitu landing site covers an area of 140 hectares while the closure was only 29 hectares/ 0.29km in extent (McClanahan et al., 2016). The decision regarding the extent and boundaries of the closure was made by the community with recommendations from WCS,

[7] This fee was still in place at the time of data collection.

an NGO which had conducted research on fish biomass and corals in the area between 1997 and 2006 (McClanahan et al. 2016).

Before establishment, participants explained that the Kuruwitu closure was a public place and fishing was open to all with consent from the local elders and chiefs. Artisanal fishermen from outside regions had to seek permission from the community elders as the fish landing sites were traditionally managed through ancestral lineages and clan access rights (McClanahan et al.,2005). The elders played a role in giving permission for fishing and resolving conflicts over resource utilisation such as type of gear to be used and where to fish (Cinner et al., 2009). Participants explained that they were guided by their belief systems and traditional laws that ensured sustainability. For instance, one was not to urinate in the waters or make noise near the waters as bad ancestral spirits would haunt them. Their traditional laws would ensure law- breakers were punished after gathering enough evidence and providing a warning.

4.3.1.1 Community perceptions regarding reasons for Kuruwitu *tengefu* establishment

The local communities revealed that in the 1960's, there were many corals and the whole of Kuruwitu area was quite productive. There was an abundance of fish and the habitat supported a variety of marine species. Over time, the marine area became degraded and coral reefs were being negatively affected. A key informant reported:

"There was not enough fish, corals had been destroyed and a lot of poaching through unpermitted access was occurring." (Respondent S)

According to Mahajan and Daw (2016), the Kuruwitu *tengefu* planning began in the year 2003. Overfishing, use of unsustainable fishing gear by migrant fishers, destruction of habitat and exploitation of fish by foreign aquarium traders were key reasons for its establishment in an effort to restore the degraded ecosystem. Meetings were held in 2003 with local chiefs at the Kuruwitu office where the idea of a community closure was suggested. These ideas were initiated by the community and local wealthy residents[8]. Consultations between the community, the wealthy residents of Kuruwitu and the EAWLS pushed for the establishment of a community closure leading to formation of a constitution (Mahajan & Daw, 2016). The Kuruwitu Conservation and Welfare Association (KCWA) was formed in 2003 which manages activities around KCCA.

In 2004, the AFEW with the EAWLS funded an exchange visit for community members from Kuruwitu to visit a community conservation project in Tanga in Tanzania. This was to allow the community first-hand experience of the Tanga communities' approach to establishing and managing a conservation area. Their visit and interactions with community members inspired them to implement the same approach back home (Mahajan & Daw, 2016; Wells et al., 2007; Cinner et al., 2012). The *tengefu* in Kuruwitu was implemented first in 2005 on a trial basis for a six-month period. After the trial period the KCWA decided to maintain the *tengefu* despite opposition by some community members. Leaders stated that while a small group of individuals supported the initiative from the start, the majority of the community had accepted the idea by 2008 (Mahajan & Daw, 2016). The inception of Kuruwitu inspired other local marine coastal communities in Kenya to start their own *tengefus*, and by 2016, 24 LMMAs existed in Kenya (Kawaka et al., 2017).

[8] The wealthy residents at Kuruwitu were a mixture of white people, Asians and a number of wealthy Kenyans that resided close to the Kuruwitu area. They managed most of the local firms such as the sisal plantations surrounding Kuruwitu

For Kuruwitu, participants offered quite a number of reasons for the establishment of a closure. These were categorised under social, environmental and economic reasons which are highlighted on table 6 below. Overall, it emerged that environmental and social reasons were key in establishment of the Kuruwitu *tengefu*.

Table 6: Community perspectives regarding the reasons for establishment of Kuruwitu CCA.

Social	*Environmental*	*Economic*
To unite the community in conservation efforts	Protect nursery area and promote good habitat for fish and turtles.	To increase fish production, therefore, income.
Education, awareness and training.	Reduce fish catch hence increase yields.	Improve tourism.
Teach children how to fish from the area.	Promote healthy corals through reducing coral reef degradation.	Assist in paying bills through earnings from additional livelihood sources.
Enhance community involvement in marine management		

4.3.1.2 Perceptions of participation during Kuruwitu establishment

The Kuruwitu community from the six landing sites in collaboration with a few wealthy residents from the area approached their local chief in 2003 in order to create a communal closure that would reduce conflicts between the community and the foreign aquarium traders (Mahajan & Daw, 2006). In 2003, after numerous consultations, the KCWA was formed. According to Mahajan & Daw (2016), there were high levels of participation of Kuruwitu community members during the inception of the community closure compared to other LMMAs in the region. The KCWA has since worked with international organisations and NGOs which have funded various projects such as eco- tourism. Rules and regulations governing the closure were formulated through a constitution where the majority of resource users were present. However, FG meetings revealed that a small number of the resource users especially the women, felt they were only involved through being informed of the already made decisions regarding the *tengefu*.

4.3.2 Perceived benefits associated with community closure

4.3.2.1 Livelihood sources

Before closure, most community members were involved in fishing in and around the closure. Some community members engaged in fish trading or operated food kiosks, while others practised farming and animal husbandry. After the establishment of the closure, women groups were formed and started savings groups for small scale businesses such as hand- crafts which were sold to visitors. The researcher observed that a community tailor shop run by women had sprung up as well. The community fish mongers sold fish to traders therefore making a profit and saved the money in a collective group account. Some members charged fishers for keeping fish in their portable freezers. In addition, other community members were involved in farming, construction of houses, selling of vegetables (grocers) and selling various types of cooked food to the surrounding local communities (see table 7). Some fishermen were also farmers while some were only engaged in fishing.

Table 7: Perceptions of community regarding the benefits of the Kuruwitu tengefu

Social	***Environmental***	***Economic***
Women empowerment through community projects	Increased variety of coral species	Increase in tourism[9]
Increased awareness of marine management	Increase in fish catch within the closure	Donations such as freezers from NGOs
Infrastructure such as hotels and roads	Turtle rearing	Increase in student and NGO researchers requiring accommodation therefore providing income to host communities.
Education opportunities	Reduced poaching in the closed area	
Co- existence between resource users with different competing interests	Increase in different octopus	
Received International award for the community project- Equator Prize Award		Diversification of livelihoods enhancing income

A key informant narrated:

"Before the LMMA establishment, I engaged in fishing and farming to a little extent. After the closure, I was involved in fishing, turtle rearing and businesses such as motorbike transportation, tourism, facilitating rent houses for students, orienting students that came to study, tenders for cooking jobs, tour guides and many others." (Respondent G)

A majority of community members who were initially farmers later on became fishermen or did fish related businesses but were still involved in farming. Other members that were fishermen later on became guards. The community mentioned that during the dry seasons they would switch to fishing while during the rainy seasons they would farm. Some locals got involved in businesses and therefore, increased their income. A key respondent shared his experience:

"I decided to change profession to do a better job. Fishing is a gamble, at times you get fish and at other times you don't. After employment, at least I am guaranteed of a salary at the end of the month and therefore I am very happy." (Respondent S)

Key respondents asserted that proceeds from the closure through tourism were managed by the leadership group (committee). The funds were used to establish an office close to the site and other projects such as eco-tourism. The two key informants from the leadership group mentioned that the community received donations of fishing boats from NGOs and a number of entrepreneurial activities came about. The community was also invited to share their CCA management experiences with other communities in the region through exchange visits to Mozambique and Djibouti. Ecologically, they also experienced increase in different species of octopus and turtles.

In an effort to create employment and a sense of ownership, the community with assistance from two NGOs (WCS and CORDIO) trained their very own tour guides who were in charge of taking visitors to the *tengefu*. Payments to access the area at the time were Kes. 500 ($5) for local tourist adults and Kes. 250 ($2.5) for local children. International visitors had their own separate charges which were generally higher than local tourists. These payments were made at the KCWA offices at Kuruwitu.

[9] The communities also consider tourists as a resource.

Generally, the Kuruwitu leadership group and community members were positive regarding the benefits flowing from the *tengefu*, however, the leadership group were much more positive. Furthermore, many of the resource users felt that the leadership group were benefitting much more from the *tengefu* than the community. Clearly, there were perceived inequalities with regards to the sharing of benefits. In addition, the direct resource users felt that the *tengefu*, did not yield as much benefit as they had anticipated while the indirect resource users appeared much more satisfied with the benefits flowing from the *tengefu*. The indirect resource users and members of the leadership group were able to identify intangible benefits from the closure such as training opportunities while the fishermen (direct resource users) were mainly focussed on monetary benefits. Overall, the resource users felt that closure yielded a lot of benefits for the community.

4.3.2.2 Expectations with regards to livelihoods

Despite the different livelihood sources mentioned above, the community expected the KCWA to share profits from the *tengefu* with them but said they did not. However, a community key informant member of the leadership group argued that often times the expectations of the community exceeded the benefits accrued.

A community key informant narrated:

"I expected to take my children to school without problems, access to better medication, modernised equipment to increase income, therefore, good living standards. I wanted the closure to unite the community rather than divide them, and that nobody would break the rules that had been put in place." (Respondent T)

Clearly there were expectations, some which had not yet been met so far. Small-scale fisherfolk felt that they would experience an increase in fish catches outside the closure. Consequently, this would then improve their income and livelihoods. Moreover, the small- scale fishermen anticipated that the income from their fish catch would enable them to purchase motor- powered boats to fish in deeper sea waters. Generally, they expected better incomes. The fishermen however, also reported having experienced diversity in fish species such as sea horse and different coral species, however the closure had inevitably reduced the area available for fishing.

Lastly, they anticipated that that tourist activities around the closure would generate income through visitor fees to be able to purchase sustainable fishing gear, however, they felt the leadership group that managed the funds did not consider purchasing fishing gear for the community. The NGO respondents corroborated that they expected more fish stock for the resource users through improved fishing gear and that the area would thrive through ecotourism, therefore, resource users would have more money especially the artisanal fishers.

The study found that there was an increase in fish variety and fish quantity in the *tengefu* after the establishment of the closure, however, fishermen reported decreased fish catch outside the closure. Furthermore, the management of the community benefits was left at the hands of the leadership group which the community felt did not equitably share the resources and benefits flowing from the *tengefu*. This resulted in negative sentiments by some resource users towards the committee and the closure.

4.3.3 Perceived negative impacts associated with Kuruwitu closure

4.3.3.1 Conflicts and tensions

During establishment of the closure, some resource users were not supportive of the project due to uncertainty regarding whether benefits would arise from the closure. Illegal access to the *tengefu* by some community members and migrant fishers using unsustainable gear especially ring nets and beach seines were key problems before the closure of the area and remain a persistent problem. The participants explained that they could not afford sustainable gear to catch certain fish species such as red snappers that were in high demand, therefore, leading to the use of unsustainable gear. Table 8 below outlines the main negative impacts of the closure as perceived by the community. Decline in fish catch was also attributed to terrorism threats and ethnic conflicts in the vicinity. They complained that donated boats and gears by NGOs were only available to the leadership group members.

A key informant highlighted other sources of conflicts below:

"Sources of conflicts include continued use of destructive gears, competition between gears, migrants and outside fishers' conflicts, landing site and beach access conflicts putting hotels and local residents against fishers." (Respondent X)

Table 8: Perceptions regarding negative impacts associated with the Kuruwitu tengefu

Social	Environmental	Economic
Community felt committee leaders were reaping most of the benefits	Poaching from neighbouring fishers	Inequitable sharing of benefits between the leadership group and the community
Increased tensions between community and migrant fishers	Use of unsustainable gear and competition for gears	Fear of privatisation by key stakeholders
Tensions between local communities and hotel owners over landing site access	Decline in fish catch through illegal access by migrant fishers and terrorism threats	Terrorism and tribal clashes

Due to financial support from international NGOs and local private companies such as Rea Vipingo which manages sisal plantations adjacent to the community as well as some private beach developers, a section of the community feared that the Kuruwitu CCA may be taken over by these private companies. This fear generated negative attitudes towards donors and investors by a few community members who feared that since the private companies contributed towards the initiative through for example payment of guards, donations of fishing gear and storage freezers, they had a greater role in decision making and therefore had a greater voice with the leadership group than they did. The community feared that the management was slowly shifting from the community to the private institutions and therefore, felt that the involvement of these stakeholders threatened their decision-making power and sense of ownership of the *tengefu*.

Small-scale fishermen felt that their views were not adequately considered by the committee compared to during the inception phase. This generated tensions between these resource users and the leadership group. In short, they felt that their livelihoods had deteriorated considerably due to the involvement of private companies and developers.

Clearly, there were a number of concerns from the community with regards to the establishment of the community closure. Despite the negative perceptions, a key informant highlighted that local communities eventually become supportive of marine closures once they became accustomed to the

presence of the MPA and started to experience the benefits. However, the involvement of private companies and developers increased tensions among community members due to fear of loss of ownership and voice in decision making processes.

4.3.4. Nature and perceptions of management and governance

The Kuruwitu community closure is run through the KCWA which is the overall management committee or leadership group of the closure. The KCWA is made up of a chairperson, vice-chairperson, secretary, deputy secretary, treasurer, a patron and leaders from the landing sites. The patron (a white Kenyan resident of the area) actively sources funding and donors from international organisations and NGOs for the Kuruwitu community projects. There is currently one woman in the leadership group while the rest are men. In addition to the main committee, there are about seven smaller sub-committees dealing with concerns related to health, security, finance (loaning of funds to community members) and fishing among others.

According to Mahajan & Daw (2016: 110), "community- based MPAs in Kenya also follow a co-management model where establishment and enforcement are the responsibility of communities with support from NGOs and various government departments." The co- management approach is also present at Kuruwitu through the Beach Management Units (BMUs) at their landing sites. The BMU regulations of 2007 required that all community- based organisations that fall within the spatial jurisdiction zone of the BMU (30 fishing boats) comply with the BMU rules and by- laws relevant to the landing site in the area (Cinner et al., 2009), therefore, the KCWA operates under the Kuruwitu BMU.

4.3.4.1 Institutions and Stakeholders

According to the community, the key stakeholders that were involved in the set- up of the KCWA were the East African Wildlife Society (EAWLS) and the African Fund for Endangered Wildlife (AFEW) (Mahajan & Daw, 2016). Other NGOs that have supported Kuruwitu include the Wildlife Conservation Society (WCS) and Coastal Ocean Research and Development in the Indian Ocean (CORDIO) through training on sustainable fishing gear, monitoring and evaluation of coral reefs and research on corals. Government departments such as the State Fisheries Department (SDF), National Environmental Management Authority (NEMA- Kenya) and Kenya Marine and Fisheries Research Institute (KMFRI) have also played a role.

The community participants and members of the leadership group stated that the NGOs and government institutions such as WCS, NEMA, Fisheries Department and KMFRI assisted the community to develop by- laws through the Beach Management Units (BMUs) for the closure.

4.3.4.2 Perceptions of community participation in management

The Kuruwitu community felt that their leadership group did not fully engage them as a community in management decisions. The Kuruwitu committee leaders were pushing strongly for the BMUs to be given a mandate to facilitate a co- management approach. The leaders felt that the co-management approach would help generate more funding from external sources while the participants, however, lamented that they were not fully engaged in management decisions. They considered the current management approach to be driven by leaders and not inclusive of the community since tasks were not devolved to the community level.

4.3.4.3 Perceptions regarding access and regulations

Before the establishment of the *tengefu*, there were fishermen from outside the community and aquarium fish traders who would illegally access the fishing grounds adjacent to the Kuruwitu community, which prompted the community to convene a meeting and close their fishing grounds with buoys. Once the Kuruwitu *tengefu* was established, no one was allowed to perform any extractive activities in the closure. This included collection of fish, shells (including breaking of shells) or turtles according to their new constitution developed in 2003. If caught, perpetrators would get punished. A key informant reported:

> *"No extraction activities were allowed to take place in the conserved area. Fishing was done more than 20m from the buoys surrounding the protected area."* (Respondent Q)

In summary, the resource users felt that the original goal to conserve the area and get the benefits as a community had been fulfilled, however, direct resource users complained that they had been left with reduced fishing grounds, therefore, lower income. In addition, the Kuruwitu community reported that some of their expectations had not been met because the benefits from the visitors or tourists were not equitably shared with the community but instead profited the leadership group.

Chapter 5- Discussion

5.1 Introduction

This chapter compares the findings from the two case-study sites and discusses these findings in relation to the broader literature on MPAs and explores whether there is a link between the perceptions of local communities with regard to the impacts and benefits associated with the MPAs and their governance approaches. While the governance approaches adopted in these two case studies (MMNP&R and KCCA) are state- driven and community-driven respectively, in theory, the two governance approaches both have aspects of co-management embedded within them through the incorporation of the BMUs along the Kenyan coast. The extent to which co-management is evident in the two case study sites is also discussed. Finally, the chapter discusses the potential value of perception studies in terms of guiding changes to governance approaches and decision making.

5.1.1 Comparison of perceptions regarding the reasons for establishment of reserves alongside the Bamburi and Kuruwitu communities

From the study findings and literature, it is clear that before the establishment of both the Mombasa Marine National Park and Reserve (MMNP&R) and Kuruwitu Community Conservation Area (KCCA), the surrounding marine areas were both managed through a traditional system of governance where local traditional elders played a key role in the management of these marine waters through ancestral privileges and clan rights (McClanahan et al., 2016; McClanahan et al., 2005).

This study has found that, from the perspective of the research respondents from the Bamburi community, the MMNP&R was established mainly for economic and political reasons, and to enhance government revenue from tourism which is confirmed by research conducted by Ramson & Mangi, (2010) and McClanahan et al. (2003). The research participants claimed it was a political agenda to redirect benefits from the area away from the local community to the control of the state. The state and NGO officials however, felt that concern for environmental protection had played the major role in its establishment, such as protection of corals and to increase fish biomass. Literature shows that the state also established the MMNP&R in order to meet its global biodiversity conservation targets (Wells et al., 2007; Muthiga, 2006). Thus, there were clearly different perceptions regarding the rationale for establishing the MPA which clearly contributed to the conflicts between the state and local communities (see 5.3.1 for further discussion).

As for Kuruwitu, this study found that social and environmental reasons were key in motivating the establishment of a community closure. The social reasons were to unite the community in the conservation and management of their marine resource in order to drive away migrant fishers and aquarium fish traders who accessed their waters illegally using unsustainable fishing gear which supports the work of Mahajan & Daw (2016). Environmental concerns such as regenerating degraded corals and to increase fish stocks for subsistence use were also important reasons. These findings are consistent with literature from Kawaka et al. (2017) as well as Maina et al. (2011). While social and environmental reasons were key, economic factors such as increased income and generation of alternative sources of livelihood were also identified as important.

5.2 Comparison of perceptions of benefits from MPAs at the two case study sites

5.2.1 Livelihood diversification

The findings suggest that in both case study sites there was a diversification of livelihoods, however, the diversification of livelihoods for the two contexts varied for a number of reasons. At MMNP&R, the diversification of livelihoods was brought about by government pumping more resources into the area to enhance infrastructure and improve tourism. This led to new and various forms of employment such as the development of small-scale businesses along the beach in Bamburi (Cinner & McClanahan, 2006). Therefore, communities were able to find alternative sources of income from these government funded initiatives. This shift may have also come about due to the reduction in the fishing grounds. While various forms of livelihood arose from the establishment of the park, the direct marine resource users felt that their livelihoods had deteriorated since the establishment of the park.

On the other hand, the Kuruwitu findings suggest that the establishment of the *tengefu* was a catalyst for other activities to develop within the area. The creation of the community conservation area led to interest and support from other actors such as local and international environmental NGOs who raised funds that contributed to creation of community projects such as eco- tourism and turtle rearing. Furthermore, more tourists were eager to visit the area which led to enhancing livelihood opportunities for the community. The influx of money into the area stimulated the economic development and opportunities for growth of the Kuruwitu area. In addition, their patron was a key figure in sourcing funding for the various community projects.

With regards to fishing, the Bamburi community had to go much further out in order to fish due to the large size of the park and reserve area. Therefore, there were constraints on their main source of livelihood which forced them to seek other forms of livelihood to supplement their incomes. Muthiga (2006) explains that fisher numbers reduced by 50% upon the inception of MMNP&R. For Kuruwitu, the community were not faced with such large barriers such as travelling far out to fish because the *tengefu* covered a very small area and fishing would occur in the surrounding area.

5.2.2 Distribution of benefits

With regards to distribution of benefits, this study has found that there were benefits flowing from the park and the *tengefu* to both of the communities after the protected areas were established. However, the Kuruwitu community experienced many more social benefits compared to the Bamburi community. For instance, the social benefits experienced at Kuruwitu included increased coexistence among resource users, ownership of the resource and women empowerment among others. With Bamburi, the key social benefits were the creation of recreational sites, education and infrastructural development (refer to tables 5 and 8). The research showed that from the respondents' perspective, there were more social benefits at Kuruwitu that directly and positively impacted the community than at MMNP&R. In addition, the Kuruwitu community took pride in their knowledge of being the first Community Conservation Area (CCA) in the country and were also sharing their knowledge with other communities in the region. Kuruwitu also experienced additional benefits such as receiving donations of fishing gear and storage freezers which were not witnessed at MMNP&R. For the respondents from the Bamburi community, the social benefits improved after the introduction of the BMUs in 2007, through training and involvement of the community in developing by-laws for their landing sites and their participation in some aspects of managing their marine area.

The respondents from the Bamburi community also felt that the economic benefits of the park accrued to the state despite numerous promises to improve the livelihoods of the community at the inception of the park. Similarly, at Kuruwitu, although there was an appreciation of the benefits of the CCA, the local community felt that the leadership group were benefitting most from the closure through the various projects, donations and funding.

5 2.3 Other Benefits

Another positive impact identified was that of women's empowerment which was evident at Kuruwitu through the construction of tailor shops, hand-craft shops and a women's group savings account. among many others which were not present at Bamburi. Women were only able to sell food in the market which they did not do before at Bamburi. Literature explains that due to the highly patriarchal nature of society in Kenya, women were not actively consulted in decision making, which was determined by their level of education, marital status and membership in communal groups (Cinner & McClanahan, 2006). However, Kuruwitu has attempted to empower women through increasing their participation in community projects.

Interestingly, both Bamburi and Kuruwitu community respondents identified positive ecological benefits encountered with the establishment of the two MPAs, such as increase in coral cover and diversity of fish species both in the closed areas and outside (refer to tables 5 and 8). However, the direct resource users from both sites mentioned that from their perspective the fish catches in both the reserve at MMNP&R as well as the waters surrounding the *tengefu* where fishing was allowed, had reduced. This was corroborated by Muthiga (2003) and McClanahan et al. (2006). In the case of Mombasa, commercial fishers who bribed their way into the park may have contributed to the decline in fish catches as they use very large vessels. In addition, migrant fishers and poachers who illegally accessed the park using unsustainable fishing gear may have possibly led to a decline in fish catches.

Overall, while there was a diversification of livelihoods in both sites, the diversification was for different reasons. In addition, while the respondents from both communities perceived benefits flowing from their protected areas, Kuruwitu respondents identified many more positive social benefits that were flowing directly from the establishment of *tengefu* compared to Bamburi respondents. In addition, other benefits such as women empowerment were evident in both sites, however, to a lesser extent at Bamburi than Kuruwitu; which led the resource users from the Kuruwitu community to appreciate their closure much more than the respondents from the Bamburi community.

5.3 Comparison of perceptions of negative impacts associated with the two management approaches

The resource users from both Bamburi and Kuruwitu perceived a number of negative impacts regarding the establishment and management of the protected areas. Direct resource users in both sites perceived benefits mainly in monetary and tangible terms; especially the fishermen at Bamburi. These fishermen claimed they experienced better fish catches before the park was established due to a larger area available for fishing; therefore, their negative attitudes came about due to perceived loss of fishing grounds, reduced income and lack of consultation during park establishment. This is confirmed by a number of other studies by Muthiga (2003), Cinner & McClanahan (2006) and Frontani (2006).

5.3.1 Tensions and conflicts

In both sites, respondents highlighted that conflicts existed between different groups. In Bamburi, there was tension between the state and the local communities and tensions between the local communities and migrant fishers, which is corroborated by Muthiga (2003), Frontani (2006) and Cinner and McClanahan (2005). In Kuruwitu, tensions developed between the community and the leadership group, between the community and the migrant fishers and between the community and private stakeholders. This is also reported by Mahajan & Daw (2016). The findings at Bamburi are similar to findings of a study by McClanahan et al (2009) on management preferences, perceived benefits and conflicts among resource users and managers in the Mafia Island Marine Park in Tanzania. This work revealed that local communities do not perceive MPAs as benefitting them but rather the national government while the government officials perceived MPAs to benefit both local communities and the government. These differences in perceptions between resource users and managers of protected areas lead to conflicts between the two groups.

At Bamburi, the most common sources of conflict between the community and the state were over loss of access to traditional fishing grounds and the reduced area for fishing. The nature of these conflicts is well documented (Cinner & McClanahan, 2006; Frontani, 2006) and also includes concerns about lack of involvement in decision making with regards to the park management. Tensions also came about due to arrests by police, severe penalties for misconduct and relocation due to construction of hotels. Research has shown that state-imposed management and top-down rules alienate resource users and lead to 'illegal' activities such as poaching and overfishing (Bennett & Dearden, 2014a). According to Brockington and Wilkie (2015), most local communities in developing countries feel that the parks are extensions of colonial rule as they were demarcated using Western targets and objectives, which did not consider local communities' unique context and their attachment to marine resources.

The conflicts between the local communities and migrants came about due to their illegal access to the Bamburi fishing grounds, which local fishers believe is exacerbated by bribery of officials. This has resulted in reduced catches due to pressure on limited fishing grounds. Invasion by commercial fishers may possibly have led other fisherfolk to abandon fishing for other forms of livelihood. The increase in the number of migrant fishers also came about due to rapid population growth in the coastal region (Cinner & McClanahan, 2006). Literature shows that high dependence on marine resources coupled with poverty and poor access to markets leads to competition and therefore overuse of shared resources (Cinner et al.,2012a; Tunje et al., 2016).

For Kuruwitu, most tensions also centred on the competition for fish between community members and migrants or poachers in their waters (see table 8). For both Bamburi and Kuruwitu, migrant fishers and the use of unsustainable gears was an ongoing issue. This led to a perceived decline in fish catch for outside both closures which contributed to their situation of poverty. Resource users from both communities explained that they were using unsustainable gear as they could not afford to purchase sustainable gear. Cinner (2010) noted that fishers who used destructive fishing gear were generally younger and poorer. Due to being in a poverty trap, some were unable to move out of fishing as a means of livelihood (Cinner, 2010). In addition, Cinner and McClanahan (2006) and McClanahan et al. (2005) report that fisherfolk utilise unsustainable gear not because they want to but because of their need. It is cheaper for them to repair the illegal gear as they cannot afford modern sustainable gear.

In summary, the study identified a number of negative perceptions from the community associated with both study sites- Kuruwitu and MMNP&R. The direct resource users at both sites were generally more negative and perceived benefits mainly in tangible form. There were conflicts and tensions between different and competing resource user groups at both MMNP&R and Kuruwitu that triggered illegal activities especially at MMNP&R. High dependence on shared resources by different user groups often leads to competition, tensions and over- exploitation, which explains the reduction in fish catches outside both protected areas. Clearly, the use of unsustainable fishing gear was identified as a key issue in both protected areas, however, these two communities were driven to use of unsustainable gear due to poverty, therefore, increasing management conflicts.

5.4 Comparison of community perceptions of management at Bamburi and Kuruwitu

5.4.1 Perceptions of community participation in the establishment of the two MPAs

In both protected areas, Kuruwitu and Bamburi, it was found that management before the establishment of the MPAs was through traditional governance regimes through the use of village elders and chiefs from whom permission had to be sought to access the park. This is well documented in the literature (McClanahan, 2005; Cinner & McClanahan, 2006; McClanahan et al., 2016).

The MMNP&R was established through a centralised management approach with minimal involvement of the community in planning and decision making (Muthiga, 2003; Frontani, 2006; McClanahan et al., 2016). The Bamburi community, except for the few illiterate elders, were only informed of the already decided rules and regulations. Therefore, they were not supportive of the MPA from the outset. According to Frontani (2006) and Muthiga (2003), this lack of involvement led to frustrations and protests as a result of the lack of consultation over their marine waters. Globally, many communities adjacent to state- based marine national parks protest over decisions made that fail to obtain their opinions and support (Christie & White, 2007).

On the other hand, there was significant involvement of both direct and indirect resource users at Kuruwitu during the establishment of the closure which led to increased support for the initiative. Kawaka et al. (2017) and Mahajan and Daw (2016) noted that Kuruwitu community was consulted in the establishment of their *tengefu* and their opinions sought in drafting of the new communal constitution in 2003. Furthermore, Kuruwitu community was afforded the opportunity to travel to Tanga in Tanzania to obtain a first- hand learning experience from community members engaged in other community managed projects in Tanzania. They were therefore motivated to initiate and apply a similar conservation approach in their locality.

Literature has shown that the engagement of resource users and incorporation of their views and concerns during the inception phase of MPAs often generates trust and support from the adjacent local communities resulting in minimal or no protests (Borrini- Feyerabend et al., 2011: Jentoft et al.,2011). However, limited or no local community participation during the establishment of state parks in Kenya has fuelled tensions and disputes and led to the collapse of the Diani- Chale Marine Reserve along the South Coast of Kenya, a week after its establishment in 1999 (Cinner et al., 2015; Mahajan & Daw, 2016; Kawaka et al., 2017). Tensions are generally more common in state- based MPAs than community-based MPAs possibly because the community closures are much smaller and

easier to manage. The state MPAs also have many stakeholders involved with competing interests, therefore increasing the complexity of their management.

Borrini- Feyerabend et al. (2011) observe that community closures have also come about as a need by the state to allow local communities some control over their resources and as a means of decentralising resources, power and control. The resource users at Kuruwitu perceive a sense of ownership and legitimacy through their involvement in the planning and establishment of the closure from the outset of the process. This could account for the fact that they have not protested against the closure. In as much as there was increased community participation at Kuruwitu, the women still felt marginalised from the decision-making process.

The respondents from the Kuruwitu community also felt a sense of ownership of their marine closure through the use of the word *tengefu* in Swahili (McClanahan et al., 2016; Kawaka et al., 2017). The use of local communal words also provides some sense of ownership of a resource and motivation for conservation of the marine resource (West et al., 2006; Christie & White, 2007; Borrini- Feyerabend et al., 2011).

In summary, respondents from both Bamburi and Kuruwitu stated that they employed traditional governance regimes before the establishment of the state park and tengefu respectively. With MMNP&R establishment, the participation of the Bamburi resource users was minimal from the outset which led to uprisings and conflicts between the different resource users and between the locals and the park authorities. At Kuruwitu, the community were adequately engaged during the inception phase, therefore, there was increased support, legitimacy and a sense of ownership over the *tengefu*.

5.4.2 Perceptions of the management approach

5.4.2.1 Co-Management through the Beach Management Units (BMUs)

According to Cinner et al. (2009), increased awareness about the importance of involving local communities in planning and decision making led the Kenyan government to introduce the BMUs in 2007 which called for a co-management approach and increased community participation in fisheries management.

Although MMNP&R was established as a state-run conservation area in 1986, the BMU national legislation of 2007 required that it adopt a co-management approach. This was also true in the case of the Kuruwitu *tengefu* which needed to embrace elements of co-management through the BMUs. Therefore, in theory, both of these protected areas were actually forms of co-management. However, in the case of MMNP&R, the findings showed that there remained a strong state-centred approach with decisions made by government with limited community participation in decision making.

Interestingly, the KCCA which was initially set up as a community-based initiative was also required to embrace elements of co-management which led to the involvement of various NGOs, government agencies and even private sector players. The NGOs at Kuruwitu played an important role in terms of providing support to the communities and writing funding proposals to try and gain greater funds for the community for projects to assist with diversification of livelihoods and to increase tourism. However, as the number of stakeholders within the co-management structure expanded, the communities became concerned because they perceived that the private sector players were beginning to gain too much power. The communities were worried about losing control over their *tengefu* which would undermine their role in management and decision making. In addition, tensions

between the community at Kuruwitu and their leadership group raised questions about the legitimacy of the governance arrangements for the community-based co-managed closure. Borrini- Feyerabend et al. (2011) explain that locals around community closures tend to feel threatened by the engagement of powerful and elite stakeholders such as private companies as they feel that they may dictate the management of their resource because they control a greater share of the resource; possibly because those stakeholders provide funding for running some of the community projects. Therefore, provision of funding also comes with some element of control.

In the case of Mombasa, the state also required the adoption of the BMUs and the concern was that this was not implemented in a consultative fashion and many members of the BMUs were members from outside the area. This created suspicion among the community, that it was a state manipulated exercise to give permission to outsiders to gain access to their waters. In this regard, Cinner et al. (2012a) have shown that co- management arrangements have been known to exacerbate social inequality among resource users through creating an opportunity for local stakeholders with a greater share or power to exercise control over the resources.

Clearly, while co- management approaches have been shown to result in benefits for MPA resource users, this study has shown that adoption of a co- management approach in the two cases has also led to negative perceptions associated with fear of privatisation and control by elite user groups at Kuruwitu and increased distrust towards the state-managed MMNP&R by Bamburi resource user groups due to concerns regarding outsiders gaining access to traditional fishing grounds.

5.4.2.2 Role of NGOs and other stakeholders in management of the two MPAs

For a long time in Kenya, coastal communities have been marginalised from decision making as they were poor and lacked effective organisations to support them financially (McClanahan et al., 2005). Poor enforcement has resulted in overlapping mandates from different institutions of the government assigned to manage different sectors. For instance, the fisheries department ought to oversee fisheries activities and the tourism department should oversee tourist activities and they both have different objectives. Yet the marine park involves both fishing and tourist activities. Therefore, due to different objectives and competing interests over the MMNP&R, there tends to be conflict between the two departments. Agardy et al. (2003) noted that confusion among decision makers with different objectives usually leads to rejection of MPAs by local communities.

Kuruwitu received immense support from NGOs. This research and the literature highlight that participants identified a number of NGOs, especially research organisations that had assisted them set up their community closure through funding, research and training programs (Kawaka et al, 2017). The involvement of these NGOs may have also contributed to the general support of the respondents from the Kuruwitu community towards the closure as opposed to the respondents from the Bamburi community. During the establishment of Kuruwitu, there were no promises made to the community such as with the respondents from the Bamburi community, but instead they were consulted in the drafting of their constitution, increasing a sense of ownership over the resource.

With the state MPA however, the NGOs started playing a role much later, which could be explained by the fact that at the time of inception of the MMNP&R, most conservation NGOs were not yet operational in Kenya. Institutions such as KWS and the KMA, which are state institutions, were responsible for managing and enforcing regulations around the park. In the 1990's, NGOs such as WCS came into existence and undertook activities such as monitoring and evaluation of coral reefs in the

park as well as conducted research with local communities. Clearly, these NGOs played a key role in creating awareness and campaigning for community involvement and participation in decision making to the government.

In summary, NGOs played an important role in the establishment of Kuruwitu and in the implementation of these two MPAs. For Kuruwitu, the NGOs provided support through funding, training and research projects while for MMNP&R, the research output from the relevant NGOs propelled the government to adopt co- management through the BMUs and therefore increase local community participation in management and decision making to increase support for the state MPA.

5.4.2.3 Fees and benefits or costs associated with fees

Park fees and licenses were introduced at the MMNP&R in 2003 in order to control increased fisher numbers. However, the Bamburi participants felt that park fees were quite restrictive and excessive and that they were actually working against them in generating profits from the park. As Ransom & Mangi (2010) observed, the majority of foreign visitors were willing to pay increased park fees to aid conservation objectives. The increasing fees to access the park especially for boat operators led the community to protest against the state. In addition, the increasing park fees were implemented with no consultation with the community. Furthermore, the fees were managed by the state and therefore, there was no transparency regarding how much money was generated which created suspicion among the community members as they had been promised to receive 10% of the park's revenue shares during the park establishment process.

Moreover, while the government claimed to apply the benefits from the park indirectly to the area and the community, literature suggests that the state also established the MMNP&R in order to achieve its targets for global biodiversity as well as regional conservation targets (Muthiga, 2006).

On the other hand, in the case of Kuruwitu, the visitor fees were paid directly to the KCWA which had a treasurer and, therefore, greater transparency in management of the funds compared to Mombasa. At Kuruwitu, visitors were charged for touring the closure and proceeds from the trips were directly deposited into the community coffers to initiate other projects such as buying freezers and setting up tailor shops for women. The research suggests that the community respondents from Kuruwitu were realising more benefits from their closure compared to the state- based MPA where communities felt that they were not benefitting at all from the income generated by the park.

As the Bamburi participants explained they were not managing the funds from the park, they felt no ownership over their marine resources, which may have fuelled more tensions against the park management. On the other hand, respondents from the Kuruwitu community appreciated their closure much more as they were directly managing the funds from the closure through the KCWA. These funds would be collected in a group account and loaned out to community members upon request and used to start- up community projects. However, some members felt that funds were not managed in a transparent manner and that monies were not distributed equitable.

5.4.2.4 Enforcement and fines

Muthiga (2003) explains that poor enforcement of regulations around MMNP&R has been a persistent challenge. State MPAs such as MMNP&R are governed by statutory laws and regulations, therefore, punishment for offences have legal repercussions such as imposing large fines or even life sentences when caught with sea turtles. Penalties for transgressions in the community-based closures such as Kuruwitu were usually prohibition from fishing or being banished from the community. These

penalties were considered less severe but may have been quite extreme for the local Kuruwitu communities that felt connected to their marine environment. However, with the advent of the BMUs, national laws related to fisheries management also applied to the Kuruwitu co-managed community *tengefu* in addition to the development of by- laws (after approval by the Director of Fisheries Department) for the respective landing sites which also determined the nature of penalties for transgressions. It is clear from the findings that with the Kuruwitu *tengefu*, the role of leaders within the executive committee was much more respected (no protests) than the MMNP&R authorities despite tensions between the Kuruwitu locals and their leadership group regarding inequitable distribution of benefits.

In summary, a comparison of the perceptions of the two communities regarding the benefits and costs associated with the establishment and management of their protected areas aligns with the literature which suggests that community-based marine closures are more likely to be supported by local communities and yield more benefits than state-driven approaches found at the MMNP&R (Ferse et al., 2010; Borrini- Feyerabend et al., 2011). This study also shows that when the community has been involved in the decisions relevant to the MPA, there is increased support and legitimacy, therefore, rules are more likely to be adhered to and this has been the case of Kuruwitu. However, this study has shown that community-managed closures are not without their problems. There have been issues in particular with regard to perceived inequitable distribution of benefits between the leadership group and the community and a perceived fear of loss of control of their *tengefu* to private stakeholders.

While both Kuruwitu and MMNP&R had co-management approaches in theory through the BMUs, there still existed strong state influence and control in MMNP&R. Furthermore, Kuruwitu started off as a community-based approach but the increasing involvement of NGOs and other stakeholders in the BMU generated concerns regarding loss of control to the private sector. On the other hand, state driven models are centralised with minimal involvement of community members even though they generate much more revenue and can boost a number of activities in an area.

Therefore, the perception of local people to the Kuruwitu closure of improved social benefits was largely due to increased livelihood sources derived from the initiative and the immense support from conservation NGOs. There were however some real concerns and perceived impacts which could undermine the initiative if not carefully addressed. The MMNP&R, on the other hand, encountered a lot of resistance from local communities because of the centralised top-down approach adopted, the limited benefits flowing to local resource users, the perceived bribery and corruption of officials, and the lack of involvement of local communities in management decisions. However, with the creation of the BMUs, the community were able to experience some involvement in decision making.

5.4.3 Value of Perception Studies in this research

A number of insights can be gleaned from a study of local perceptions which can be used to inform and improve conservation management (Bennett, 2016). This study has illuminated the views of resource users from two local communities with regard to their perceptions of negative impacts and benefits associated with the establishment and management of MPAs adjacent to their settlements. As mentioned earlier in section 2.2, perception studies are valuable in enhancing understanding and insights of local communities' views on social impacts of MPAs and can be used to inform adaptive management. They also provide insights on the views of local resource users and stakeholders to the ecological, social and economic outcomes of the initiative (Bennett, 2016). However, it is recognised that the sample sizes in this study were relatively small and thus the extent to which the perceptions

and insights gleaned from this study can be seen to be representative of the entire community, cannot be assumed (Cooke & Kothari, 2001).

In the case of both Bamburi and Kuruwitu, the resource users were concerned about the influx of migrant fishers into their protected areas, therefore, sense of loss of ownership of their MPAs. The direct users in both communities also perceived an inequitable distribution of benefits from the MPAs and were thus not supportive of the way these areas were being managed. Therefore, this resulted in a lack of trust, therefore, less support from the direct resource users, and consequently opposition to the conservation initiatives. In general, the lack of transparency regarding financial benefits derived from the conservation initiatives in MMNP&R raised suspicion and reduced trust amongst local resource users and the broader community; while at Kuruwitu, the inequitable sharing of benefits created tension with their leadership group. There is a need for regulations that control resource users that are permitted to access a particular marine area and the amount of fish catch allowed per resource user.

The minimal involvement of the Bamburi community during the establishment of the MMNP&R led to a perceived sense of marginalisation in decision-making relevant to the Park and decreased legitimacy of the MMNP&R conservation initiative by the community. Poor participation of women in the establishment of the protected areas and in day-to-day decision making in both Kuruwitu and Mombasa also decreased the interest of some of the women towards the conservation initiatives. There is clearly a need for local marine policies that increase the involvement of women in decision-making despite their marital status, level of education or age.

The feedback from this study is thus relevant to state and county officials at MMNP&R to inform current management practices in adapting local policies to address enforcement and restriction of migrant fishers in accessing MPAs. In addition, fostering management practices that are more socially appropriate and encourage increased community participation in the BMUs to increase community trust and support, are required. In addition, there is need for documentation on the use of revenue and funds derived from marine conservation initiatives at MMNP&R; ensure that the documentation is accessible and available to the public or local community in order to enhance transparency. This would enhance support and contribute to promoting a more equitable distribution of benefits to communities.

In Kuruwitu, greater involvement of women in decision-making structures, and greater transparency regarding the management and distribution of funds would lead to greater support for the conservation initiative. In addition, greater clarity on the powers of the local decision-making structures especially in view of the perceptions of increasing power of private sector players would also strengthen the governance structures in the case of Kuruwitu.

Chapter 6: Conclusion and Recommendations

6.1 Conclusion

The overall aim of the research was to examine the perceptions of two coastal communities in Kenya regarding the benefits and impacts of MPAs located adjacent to their villages and examine whether there is a link between these perceptions and the management approaches adopted. The first community, Bamburi, located adjacent to the MMNP&R, is a state controlled MPA while the second community, Kuruwitu, resides close to the Kuruwitu community closure which is a community-based protected area.

Through interviews with key informants and information gathered from two focus group discussions in each case study site, findings of the research revealed that while both communities perceived that ecological reasons were key in the establishment of both MPAs, they were of the opinion that the establishment of MMNP&R was driven more by economic and political reasons while Kuruwitu was driven more by socio- economic factors. Perceptions of the benefits of the MPA were strongly linked to levels of participation in the establishment of the MPA. In the case of the establishment of Kuruwitu *tengefu* local communities were consulted and participated in crafting a constitution for the area while the MMNP&R did not allow adequate consultation and there were no clear channels of communication during and after the park's inception. In both sites, diversification of livelihoods was identified as a benefit of the MPAs through the creation of various forms of employment although the factors leading to the diversification of livelihoods were different in the two case study sites. In Kuruwitu, the *tengefu* attracted tourists, NGOs and developers in the area; therefore, new opportunities arose. In Mombasa, the government invested resources in the MMNP&R through providing funds for infrastructure and tourism which provided some members of the communities with alternative income sources.

In both MMNP&R and Kuruwitu, the direct resource users (fishermen) were generally more negative towards the park and the *tengefu* respectively due to the reduced size of their fishing grounds resulting in less catch and reduced income. At both Bamburi and Kuruwitu, migrant poaching and use of unsustainable gear were persistent challenges. The rules for transgressions imposed by the conservation authority (KWS) such as harsh fines and jail sentences at Bamburi were not formulated in consultation with the fishers which led to increased resistance towards the conservation initiative.

The other resource users at both study sites were more positive regarding the MPAs. Overall, the Kuruwitu community perceived more benefits, especially social benefits, flowing from their *tengefu* than the Bamburi community living adjacent to the state-run MMNP&R. While community-based closures are assumed to be a preferred management approach as they instil a sense of legitimacy and ownership, the Kuruwitu community was nonetheless concerned about the inequitable distribution of benefits from their leadership group, and were fearful of the increasingly powerful role of the private sector in the BMU co-management structure introduced in 2007.

This research highlighted that where there was greater involvement of resource users in MPA planning and management, there was greater support for the initiative such as the case for Kuruwitu. This resonates with other research which has shown that local communities are more supportive of MPAs and community closures when they are consulted and begin to experience the benefits overtime (Bennett & Dearden, 2014b; Kawaka et al., 2017). Due to an increased recognition of the value of participatory and more inclusive channels to engage local communities, there is a growing call for

government to adopt a shared governance approaches to ensure sustainable and equitable marine resource use and management. Furthermore, state-imposed management and top-down rules alienate resource users and lead to 'illegal activities' and protests from resource users.

While MMNP&R and Kuruwitu were employing state-driven and community-based management approaches respectively, both embraced aspects of co-management through the BMUs. Therefore, MMNP&R was theoretically a state- driven co-management approach while Kuruwitu was a community -based co- management approach which increased engagement of local communities especially at Bamburi. However, increasing involvement of NGOs and other stakeholders in the BMUs has raised concerns regarding loss of control of the *tengefu* at Kuruwitu and involvement of non-community members at Bamburi.

Despite the presence of the BMUs and efforts to promote co- management, the MMNP&R still employs a state-centred co-management approach while Kuruwitu employs a community- driven, co-management approach. Findings from this research provide relevant and appropriate feedback that can be fed into local marine policies and plans.

6.2 Recommendations

From the study, the following recommendations emerged.

There is a critical need of involving community members especially in the state-driven MMNP&R in planning and decision making from the outset of the process. This requires provision of opportunities for community members to give inputs throughout the process and for proper representation from the broader community to ensure greater support and legitimacy.

Furthermore, special attention needs to be given to ensuring the inclusion and empowerment of women in the establishment and ongoing management of such protected areas. There is need for in depth discussions regarding mechanisms to minimise impacts on the livelihoods of direct resource users (fishers) in situations where the fishers may lose access to their fishing grounds or experience restricted access due to the location of the MPAs. In addition, there is need to explore better equipment to reach fishing grounds if the fishing grounds are currently further away from fishers. Creation of alternative livelihoods or compensation mechanisms are critical where fishers' incomes are negatively impacted by marine conservation initiatives.

There is also an important need for greater transparency regarding the decisions surrounding resource sharing due to perceptions that there has been inequitable distribution of benefits at both Bamburi and Kuruwitu. At Bamburi, the community felt that the state did not share revenue generated from the park with them as they had been promised during MMNP&R establishment process while at Kuruwitu, the local communities felt that the leadership group accrued most of the benefits from the *tengefu*.

Finally, with regards to the co- management structures established through the BMUs, there emerged issues of representation within the BMUs in both case study sites. There is a need for legitimate community representation and opportunities for input from the local communities within the BMUs so that the co-management structures are representative of the actual community, especially in the case of MMNP&R where there were more people serving within the BMUs that were not from the area.

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Chapter 8: Appendices

Appendix 1: Focus Groups Schedules and Template

Focus Group Schedule

Focus Group Schedule			
Focus Group Date	Focus Group Participants	Number of participants	Code
6th February 2018	Mombasa Bamburi Direct Resource Users	13	FG1
7th February 2018	Mombasa Bamburi Indirect Resource Users	11	FG2
8th February 2018	Kuruwitu- Bureni Indirect Resource Users	15	FG3
9th February 2018	Kuruwitu Direct Resource Users	14	FG4

Template for the Focus Groups

Rationale: The purpose of this meeting is to understand the history concerning the establishment of the Mombasa Marine Park & Reserve/ Kuruwitu as a Marine Protected Area (MPA)/Community- Based MPA and its management. The meeting further seeks to explore how your lives and livelihoods have been impacted (positively or negatively) by the existence of the MPA. The session targets both direct and indirect resource users of the MPA. These users are inclusive of and specifically targets fishermen, boat operators, harvesters, traders, tourists and kiosk owners who are the direct and indirect resource users impacted by the specific management approach. This research also aims to compare views of resource users that are managed under a state-driven approach (Mombasa Marine Park and Reserve) and a community-driven approach (Kuruwitu *tengefu*). The intention is to examine your views regarding the impacts associated with these two different management approaches (state driven vs community driven) and provide feedback to the communities on findings as well as provide some recommendations to conservation agencies that will improve the management of the two MPAs, and other MPAs in Kenya. Information generated during the workshop will be treated as confidential.

Research Questions for Focus Groups

I. History and Establishment of MPA

a) Could you briefly narrate the history of Mombasa Marine Park & Reserve/ Kuruwitu before its establishment as an MPA and factors that led to its establishment.
   - *When was the MPA established and what led to its establishment? Any social, political or environmental conditions that influenced its establishment? Explain?*

b) Were you consulted during the establishment of the MPA?

c) Were you part of the planning process or did you serve on a committee? Were you consulted during the planning & decision- making process? Was your opinion taken into account?

d) What were your expectations from the site/ area before the establishment of the MPA/ designation as an MPA?

e) Were there any restrictions imposed on access to areas or resources with the establishment of the MPA that were not present before the MPA establishment?

II. Access and Livelihoods

a) What resources does the MPA provide for you? What do you do for a living?
b) Please provide the various sources of livelihood before and after the establishment of the MPA?
c) What was the nature of access to the MPA resources?
    - before the establishment of the MPA,
    - upon establishment,
    - after the establishment of the MPA and currently?
d) What were your expectations upon establishment of the park and have they been met to date? If not, why not?
e) Within your specific community, how does access to the resources operate? How are decisions made about who can access the resources and what are the rules and regulations pertaining to such access?
f) Are your views and concerns usually incorporated into decision making regarding access and rules of access? If no, who is making these decisions?
g) How has your livelihood changed (improved or deteriorated) since establishment of this particular MPA? In your view, what are the benefits and costs of the MPA?

III. Nature of Management

a) What management approach was employed before the establishment of the MPA? What was the approach employed after it was established and what is the current approach? Could it improve, how & why?
b) How is management working? Are you supportive of the nature of management? Explain why?
c) Are/ Were there any conflicts encountered around current or previous management approaches (before MPA designation)?
d) Is there a current committee in place that is responsible for the management of these resources from the MPA?
e) What role do you play in the management of these resources?
f) What are the costs and benefits involved in management?
g) What changes would you like to see with regards to the management of the resources?
h) What is the role of local leaders in the management of the MPA and its resources? Do you like or support the role of leaders in management of the resource?
i) Are there non-community members involved in management of the resources (institutional planning)? Who are involved within the community and from outside (who are not involved) in the process with regards to management of the resources?
j) Are there other organisations or institutions who assist in the management of these resources and is there a way their support could be improved?

Appendix 2: Interview Schedules and Templates

Date	**Organisation/ Affiliation/ Occupation**	**Location**	**Code**
6th Feb 2018	Fisher and diver	Bamburi	Respondent N
6th Feb 2018	Fish trader	Bamburi	Respondent M
7th Feb 2018	Kenya State Department of Fisheries (Govt)	Bamburi	Respondent L
7th Feb 2018	Tour guide	Bamburi	Respondent K
9th Feb 2018	Fisher	Kuruwitu	Respondent T
9th Feb 2018	Fish monger and KCCA member	Kuruwitu	Respondent R
12th Feb 2018	Security Guard	Kuruwitu	Respondent S
12th Feb 2018	Manager- KCCA	Kuruwitu	Respondent G
12th Feb 2018	Fisher	Kuruwitu (Bureni)	Respondent Q
20th Feb 2018	Tourism Officer- Kenya Wildlife Services (Govt)	Mombasa	Respondent W
5th March 2018	Researcher- CORDIO	Mombasa	Respondent V
20th April 2018	Researcher WCS- Mombasa	Mombasa	Respondent Y
28th April 2018	Senior researcher WCS	Mombasa and NewYork	Respondent X[10]

[10] Respondent X and Y filled the interview schedules remotely and sent their responses through email

Interview template for Bamburi and Kuruwitu community key informants

Hi! My name is Stephanie Achieng, a student at the University of Cape Town (South Africa) pursuing an MSc in Environment, Society & Sustainability. I am currently conducting my MSc research with support from my two field assistants (Innocent & Evelyn). I am interested to learn about the perceptions of communities regarding the benefits and costs of marine protected areas in Kenya and will be comparing responses from communities living adjacent to the Mombasa Marine, a State-run marine park, (Bamburi) and a community living adjacent to the Kuruwitu Community Conservation Area which is managed by the Kuruwitu community themselves.

This interview specifically targets influential community members, village elders or Beach Management Unit (BMU) chairs who are knowledgeable about the various aspects of the park, its history, possible impacts and management approach.

You have been invited to participate in this research. Any information you provide will be treated as confidential. Information generated will be fed back to communities and conservation agencies. It is hoped that this research will yield useful information for the improved management of the two MPAs and be of use to the management of other MPAs in Kenya.

Section A: Socio- Demographic Information

Name (Optional) Occupation:

Location: Role in community:

Age: Date of Interview

Section B: Research Questions

I. History and Establishment of MPA

a) Could you please narrate the history of MMNP&R/ Kuruwitu Community Conservation Area before establishment of MPA and factors (social, political, environmental) that led to its establishment in your opinion.
b) What were your expectations from the site/ area before the establishment of the MPA?
c) What was your role during the establishment of the MPA? Were you consulted? Were you part of the decision-making process or did you serve on a committee?
d) Were there any restrictions imposed upon users during the establishment of the MPA?

II. Access & Livelihoods

a) What do you do for a living? What type of resources does the MPA provide for you?
b) What was the nature of access to the MPA resources?
    - before the establishment of the MPA.
    - upon establishment and after the establishment of the MPA
    - Currently?
c) How does access to the resources operate currently?
d) Any communal laws or policies that govern access to the MPA and its resources?
e) What were your expectations in terms of livelihoods expected from the MPAs and have they been met?
f) List communal sources of livelihood before and after the establishment of the MPA?
g) What are the benefits and costs of the particular approach with regards to your livelihoods?
h) Do you feel that the MPA has changed (improved or deteriorated) the livelihoods of the surrounding communities since establishment of the particular MPA approach? In what way?

III. Nature of Management

a) What was the management approach employed before establishment of the resource? What was the approach employed after and what is the current approach? Could it improve, how & why?
a) Are/ Were there any conflicts encountered around current or previous management?
b) Is there a current committee in place responsible for the management of these resources from the MPA?
c) What role do you play in the management of these resources?
d) What are costs and benefits involved in management?
b) What changes would you like to see with regards to the management of the resources?
c) What is the role of leaders in the management of the MPA and subsequent resources? And do you like or support the role of leaders in management of the resource?
d) Stakeholders involved in management of the resources?
   - Are these stakeholders helpful and is there a way their support could be improved?

Asante sana!!

Interview templates to institutions (Government and NGOs)

Hi! My name is Stephanie Achieng, a student at the University of Cape Town (South Africa) pursuing an MSc in Environment, Society & Sustainability. I am interested to learn about the perceptions of communities regarding the benefits and costs of marine protected areas in Kenya and will be comparing responses from communities living adjacent to the Mombasa Marine, a State-run marine park, (Bamburi) and a community living adjacent to the Kuruwitu Community Conservation Area which is managed by the Kuruwitu community themselves.

This interview specifically targets staff of institutions involved either directly or indirectly in the management of the two models.

You have been invited to participate in this research. Any information you provide will be treated as confidential. Information generated will be fed back to communities and conservation agencies. It is hoped that this research will yield useful information for the improved management of the two MPAs and be of use to the management of other MPAs in Kenya.

Section A: Socio- Demographic Information

Name (Optional)	Occupation:
Location:	Role in community:
Age:	Date of Interview:

Section B: Research Questions

I. History and Establishment of MPA

a) Could you please narrate the history of Mombasa Marine Park/ Kuruwitu before establishment of the specific MPA and factors (social, political, environmental) that led to its establishment in your opinion.
b) What were your expectations as an organisation from the MPA before its establishment?
c) What was your role during the establishment of the MPA? Were you consulted? Were you part of the decision-making process or were you involved in a committee?
d) Were there any restrictions imposed upon resource users during the establishment of the MPA? Why?

II. Access & Livelihoods

a) What benefits or resources does the MPA provide to the state/ community? What about the adjacent communities? What benefits does it provide to you as an organisation?
b) What was the nature of access to the MPA resources?
    - before the establishment of the MPA.
    - upon establishment and after the establishment of the MPA
    - Currently?
c) Any statutory/ institutional laws or policies that govern access to the MPA and its resources?
d) What were your expectations as a statutory organisation/ NGO/ individual from the MPA?
e) Do you feel there were sources of conflict resultant from the management of the MPA?
f) Do you feel that the MPA has changed (improved or deteriorated) the livelihoods of the surrounding communities since establishment of the particular MPA approach? In what way?

III. Nature of Management

a) What was the management approach employed before establishment of the resource? What was the approach employed after and what is the current approach? Could it improve, how & why?
b) How is it working? Are you pleased with the nature of management?
c) Are/ Were there any conflicts encountered around current or previous management?
d) Is there a current committee in place responsible for the management of these resources from the MPA? Describe the structure of the committee?
e) What role do you (individual/ organisation/ institution) play in the management of these resources?
f) What are costs and benefits involved in management?
g) What changes would you like to see with regards to the management of the resources?
h) What is the role of leaders (if any such as County Government) in the management of the MPA and subsequent resources? Do you support the role of leaders in management of the resource?
i) Stakeholders involved in management of the resources from the MPA?
    - Are these stakeholders helpful and is there a way their support could be improved?
j) In your opinion, which MPAs are better run, the state driven or the community managed MPAs or Co- managed MPAs? And why?

Appendix 3: Prior Informed Consent Form

DEPARTMENT OF ENVIRONMENTAL AND GEOGRAPHICAL SCIENCES

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Informed Voluntary Consent to Participate in Research Study

Project Title: Marine Protected Areas (MPAs) in Kenya: Perceptions of adjacent coastal communities to the costs and benefits associated with different MPA governance models

Invitation to participate, and benefits: You are invited to participate in a research study conducted amongst local communities residing adjacent to Mombasa Marine Park and Kuruwitu Conservation Marine Area in Kenya. The purpose of this study is to better understand the perceptions of local communities with regard to the costs and benefits of having established the MPA. The study will also try to understand the nature of the management model used in this area and how communities view this approach. I believe that your participation in the study will provide valuable information to better understand how communities view and value conservation efforts in the country and highlight what the costs and benefits of conservation. This information can be communicated to conservation agencies to inform policy making and enhance management decision-making.

Procedures: During this study, you will be asked to provide feedback regarding your perceptions of the costs and benefits of the conservation efforts in your area and how you view the approach to management.

Risks: There are no known harmful risks related to your participation in this study.

Disclaimer/Withdrawal: Your participation is completely voluntary; you may refuse to participate, and you may withdraw at any time without having to state a reason and without any prejudice or penalty against you. Should you choose to withdraw, the researcher commits not to use any of the information you have provided without your signed consent. Note that the researcher may also withdraw you from the study at any time.

Confidentiality: All information collected in this study will be kept private in that you will not be identified by name or by affiliation to an institution. Confidentiality and anonymity will be maintained as pseudonyms will be used.

What signing this form means: I will not ask participants to sign but instead to give their verbal consent to participate. I will document and keep a record of this process

By signing this consent form, you agree to participate in this research study. The aim, procedures to be used, as well as the potential risks and benefits of your participation have been explained verbally to you in detail, using this form. Refusal to participate in or withdrawal from this study at any time will have no effect on you in any way. You are free to contact me, to ask questions or request further information, at any time during this research.

I agree to participate in this research (tick one box)

☐ Yes ☐ No _____ (Initials)